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# 3D Total



Being a freelance artist has its perks, and this talented artist has certainly had his fair share, having had the privilege of working for some of the most respected companies around today! In this issue, we get to know a little more about the artist that is...

# JONAS THÖRNQVIST



## ARTICLES
Making Of Dominance War III Winning Entry by Dimitry Parkin, plus more!



## INTERVIEWS
Jonas Thörnqvist, Neil Blevins, With a Twist Studio & Tim Appleby



## GALLERIES
Tolga Gungor, Mauro Baldissera, Cheong Hoe Yi, plus more!



## MAKING OF'S
1936 Auburn Speedster by Richard Clark, plus more!



## TUTORIALS
The Final Part of our Bugatti Veyron Mega Tutorial Series, plus more!




# Editorial

Let me introduce you this month to a Hulkalicious Issue - #035! Hulk fever is all and everywhere right now; smashing through the movie screens and storming through the CG communities like nobody's business... It seems everyone wants a piece of modelling this wild beast! You'll all now be familiar with the fantastic justice that Jonas Thörnqvist has done the Hulk with his superb models, and so we give thanks to the talents of Mr. Thörnqvist this month with a meaty interview featured on Page 008, delving into the life – and the monster of a portfolio – that he has built for himself. I dare you not to be impressed! We also interview Neil Blevins (Page 019), who you all should be familiar with following the fantastic tutorials that he creates for his website and the work that he has done for Blur Studio, and now Pixar. Neil has a good head on his shoulders and all would be wise to take a thing or two from his experience and legendary works – pure inspiration indeed! And let's face it, we can never get enough of that, right? Nope, thought not! We also get to talking with Tim Appleby for the low-down on his career as a character artist, after having worked on Mass Effect as Senior Character Artist and now as Character Lead for Splash Damage (Page 034)! I can feel you all turning green with envy already! And as a nice little bonus this month we've also got an interview with 'With a Twist Studio' for you, who appear to have the motto: work hard, play hard! Ah play, now what's that again? See Page 028 for some behind-the-scenes chat with this inspirational studio! Sadly, but not lastly, our Bugatti tutorial series comes to an end this month, but don't worry for we shall we back next month with a 6-part tutorial series on creating a complete scene, specialising in aged and weathered texturing! See, we never let you down, do we?! Our Making Ofs have some red carpet guests this month in the form of Sebastien Sonet and the up-and-coming Malanjo, plus more Making Of goodness from the talented artists, Richard Clark and Arif Pribadi. And don't forget that our ZBrush tutorial series ends next month, so be sure to renew if your sub is running out! Miss out and be silly indeed.

Ed – Smash!!


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## Free Stuff!

Wherever you see this symbol, click it to download resources, extras and even movies!!





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# Get the most out of your Magazine!

**If you're having problems viewing the double-page spreads that we feature in this magazine, follow this handy little guide on how to set up your PDF reader!**










## Setting up your PDF reader

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**That's it!**

# Contributing Artists

Every month, many creative and talented artists from around the world contribute to 3DCreative Magazine. Here you can read all about them. If you would like to be a part of 3DCreative or 2DArtist Magazines, please contact lynette@zoopublishing.com

Our car modelling tutorial series, Bugatti Veryon, brings a group of talented artists to 3DCreative Magazine. These wonderful people are responsible for creating our 3ds Max, Cinema 4D, LightWave, Maya & Softimage XSi content this month!





## Ali Ismail



is a Lead Artist at Ebal Studios who has worked on everything from Hollywood movies to TV commercials to games. He started out by working on the first 3D games in Jordan, freelanced to clients such as Microsoft and VW, and worked for ILM on projects such as Indiana Jones and the Kingdom of the Crystal Skull whilst at Lucasfilm Animation Singapore.

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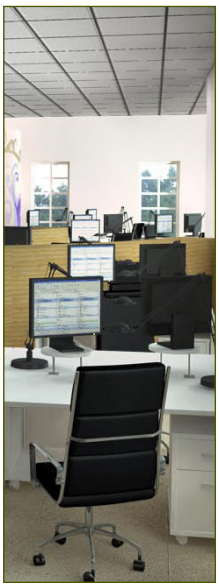


## Brendan McCaffrey

is a digital artist and designer who does a variety of work, ranging from presentation and promotional art for the games, automotive and product industries, to lighting and rendering for animation and FMVs. He is currently based in Las Palmas, Gran Canaria, Spain.

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## Emlyn Davies



is a 27 year old freelance 3D artist, based in Birmingham, UK. He has four years experience in Cinema 4D and has freelanced mainly at Cadbury as a 3D consultant for most of his professional career. Passionate about all things 3D, he constantly strives to develop his expertise and blur the boundaries between the real and the digital world.

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## Krisztián Szeibold

is a 3D Artist living in Budapest, Hungary. In 2000, he started using 3D software such as 3D Studio R4, and later 3ds Max and Maya. He's currently working as a 3D Artist on post-productions and commercials with Softimage XSI and Fusion. He hopes that he's going to be able to work on feature films in the future.

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## Vojislav Milanovic



is a 27-year old 3D generalist from Banjaluka, northern Bosnia. After a great time in Australia he went back to his homeland to pursue his career as a 3D artist and lecturer in a Multimedia Design College. As much as he likes learning new things, he also loves teaching others. Amongst other stuff, he enjoys photography, drawing, painting and sculpting.

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## Neil Blevins

started painting and drawing traditionally before getting into 3D graphics, whilst still living in his home country of Canada. After getting a BFA in Design Art, he moved to LA where he worked for Blur Studio. He now lives in San Francisco working as a Technical Director for Pixar. In his spare time he makes sci-fi 3D/2D hybrid artwork, author tools and writes art-related lessons and tutorials.

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## Jonas Thornqvist



is a Character/Creature Artist from Sweden. He is 28 years old and has worked in the computer graphics/video game industry for over 10 years now. Jonas has worked with companies such as Framestore CFC, Lionhead Studios, Avalanche Studios and Electronic Arts (Dice) as a Character/Creature Artist, and has also done freelance character design work for film and games for Studios such as Blur Studios.

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## Tim Appleby

is a Game Developer currently working as a Character Art Lead for Splash Damage in the UK. Tim was previously located in Canada where he contributed towards the award-winning Mass Effect game as a Senior Character Artist.

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## Dmitry Parkin



was born in Russia in 1982 and is, at present, working in the games industry as a freelance artist. He specialises in design and character creation, as well as creating creatures and monsters in surreal, horror and fantasy styles – his favourite genres from his youth!

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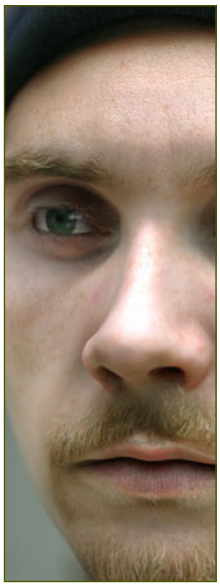


## Daniel Zettl

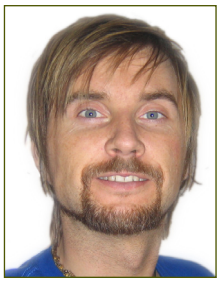
is currently a Senior Animator and Rigger for Framestore's commercials department in London. His work includes character animation for companies like Framestore (Primeval2, London), McGuff (Dragon Hunters, Paris) and Scanline (Germany). He also works as an animation instructor at the University of Applied Sciences in Dresden. daniel.zettl@gmx.de

www.daniel-zettl.blogspot.com



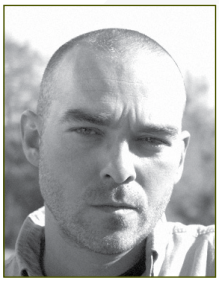


## Robert Kuczera



is a very successful Character Animator living in Munich, Germany, working mainly as a Character Animator for feature films and commercials in Germany and the UK, for companies such as Framestore and The Mill. Besides teaching, Robert has also just published an animation DVD for Gnomon Workshop, called "Intuitive Animation".

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contact@3dcharacters.de



## Sebastien Sonet

is a designer living and working in the French countryside. He has followed the course of an art school education, during which he devoted himself primarily to photography and sculpture. So far in his career he has worked as an Art Director in an artistic branch for web and print, and has been working freelance for two years now.

http://www.xxeb.net contact@xxeb.net



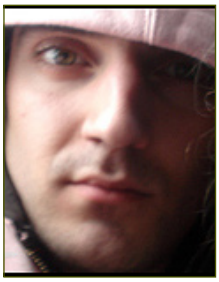


## Wayne Robson



is a very successful freelance digital sculptor living in Durham, England. Wayne is currently dividing his time between work on an upcoming creature documentary and his upcoming extensive book on ZBrush for Wordware publishing. Wayne's best selling DVDs on ZBrush and Mudbox are available through Kurv Studios.

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## Malanjo

is a digital artist from Portugal. Since he was young, his mother taught him to always look at the world with artistic eyes. His major step in the art world was when he entered the College of Fine Arts of Porto. He has been working professionally in digital media since 2003, and in the future he wants to work in a major company with global projection, to learn more and more – with the masters!

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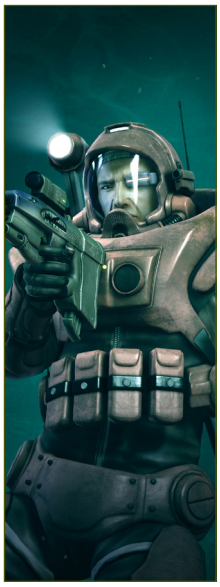


## Richard Clark



is 30 years old with two and a half years' experience in 3D. He works for a VFX and Post Production facility in Cape Town, South Africa, as a 3D generalist specialising in Character Animation. He works in XSI (Softimage) and his aim is to work on an animated feature as a character animator.

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## Arif Pribadi



was born in Surabaya, Indonesia, and is currently located in Vancouver, Canada. Having graduated from the Vancouver Film School and now also from BCIT, he is currently looking for work. His main skillset is 3D modelling and texturing for characters and environments, as well as ZBrush sculpting and texturing.

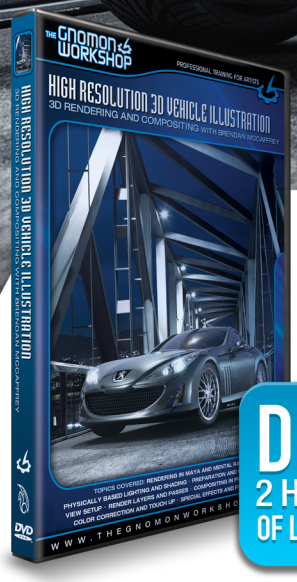
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# Jonas Ibanez



"There are some really great people at Blur Studios and working with them has always been a lot of fun. I'm really looking forward to their upcoming feature film Heavy Metal."

We chat with one of the leading character modellers around today, and find out about the work that he did on Dear Anne and also his plans for the future.

# Jonas Thornqvist



Hello Jonas. Well it's about time that we interviewed such a talent as yourself in this magazine, so we can really treat our readers to some truly amazing artwork. But I must apologise because I'm going to start off with a truly boring question: could you tell us a bit about yourself and what made you get into doing 3D?

Hello Chris! Thanks for your kind words. Well, I'm 28 and from Stockholm, Sweden where I lived most of my life. Although for the last six years I've been living in London and Milan,



working for various companies and on many different projects. I've also freelanced with many other studios all over the world, from Blur Studios in LA to Eden studios in Paris.

I got into 3D a long time ago now; I was almost 14, so 1992-93 I guess. I remembered watching Disney's *Aladdin* and I was so impressed by the characters and animation that I knew I wanted to work on something like that one day. And then a year later *Jurassic Park* was released! Back then I enjoyed drawing with pen and paper and it was my father (who worked at IBM at the time) that got me interested in computers. I remember a friend of mine's big brother owning a copy of 3D Studio for DOS (version 4 I think) and I thought it was amazing! From that day on I knew that's what I would be doing when I grew up.

After completing college I tried finding schools in my area specialising in 3D art, but back then it was such a new thing it just didn't exist. So I decided to apply for some jobs as a 3D artist here in Stockholm and I actually got one (you didn't need to know that much to get a job in the 3D industry in those days!) I got to work with


Jonas Thornqvist 2004
www.subdivme.com

some really talented people and learned loads from them - not much about 3D maybe, but more colour theory, anatomy, composition... you know, the stuff that really matters.

Ah cool, so what sort of work did you do for Blur Studios?

Oh, I have done a lot of work for Blur, all of it creature/character modelling, texturing and shading. I started out working on their Reebok basketball commercials; I modelled the heads for the two basketball players and I also did their textures and shading. I've also worked on a Coca Cola commercial, a MTV Aids campaign, James Cameron's *Aliens of the Deep* and I've done loads of creatures/humans modelling for some of their game cinematics, like *Fantastic Four*, *Punisher*, *Hellgate London* etc.

There are some really great people at Blur Studios and working with them has always been a lot of fun. I'm really looking forward to their upcoming feature film *Heavy Metal*. Its about time they did a feature film and with David Fincher, Tim Miller and Blur Studios... it just can't go wrong!

From creatures to people, one thing that stands out (apart from the amazing models) is the realism of the skin textures. How long did it take you to perfect this and can you give us any tips?

I always loved doing characters and anatomy,









so making good-looking skin is something I learned during the 10+ years I've been doing this. It started with loads of falloff nodes to get all the subtle colour shifts skin has, to the more recent use of subsurface scattering. The key, as always, is good reference. I start by looking up some good reference images of the kind of skin I want to reproduce: the translucency, the amount of surface bump, specularity etc. I either find my references on the Internet, in my own reference library, or I take some pictures myself - whatever does the trick.

Then comes the texturing - a very important part of the process. On commercial projects you usually have images of actors to start from; for personal works I mostly use images from the Internet, my personal library or www.3d.sk/ as a start, and then I project these onto my geometry in 3ds Max or Maya. I spend a lot of time "flattening" them out once projected, removing all shadows and highlights. I also render out different procedural passes, like different noise and celluars. The good thing about these passes is that they have no stretching and can provide a good fine detail layer in areas that are missing good texture projection.

Once I'm happy with the colour texture, I use that to create the rest of the property maps: usually a subdermis, SSS strength, bump, specular strength, gloss and reflection map. The work on the shader begins when the colour texture is done. Since the property maps depend on the shader, and the other way around, they get tweaked while working on the shader. I don't have a "perfect" skin shader that works all the time and under all light conditions, but I have a good base that I start out with (insert link to SkinPlus+.mi here).

I plug my colour texture into the unscattered diffuse and epidermal (I tweak the epidermal colour somewhat, making it slightly brighter and more yellow by using an output node). The rest of the maps go into their corresponding input slots. For skin I think it's very important to use a slightly stronger bump map, which only affects reflections/specularity, together with a weaker diffuse bump. This gives the skin a much



softer and translucent look. I tend to only use reflections for my skin nowadays, together with photometrical lights and a good environment map. It takes a bit longer to render, but I like the results it gives.

Then there is just a lot of tweaking of values and correcting of textures until you get the look you want. If it's for animation, I put it through an existing animated light rig to test it under different light conditions. It's easy to make skin that works for one image, but a lot harder to make one that works well in animation and different light conditions!

Of course, the lighting itself is very important too. I always use large photometric lights. For the Hulk image I only used three of them: one main from above/front, one large and very bright from the back and a rather weak one from the camera's position. Sometimes I use "final gather" to get some nice bounce light, or when the light comes from a environment map. For the Hulk image I wanted a contrasted final image and so I didn't use any final gather.

**In your latest piece of work, you've created one of my favourite Marvel characters of all time: "The Hulk". Could you tell us a bit about why you chose this particular character, and how long did it take you to model him?**

I wanted to model something big, with loads of volume and anatomy - what better subject than the Hulk!? I also wanted to create my own version of the hulk. I really like the Ang Lee version and I think the design for the new film will look very nice too, but I wanted something a little more like the comics.

The modelling process was a rather quick one; I have so little time left for my personal stuff nowadays that everything has to be done quickly! I took a older body mesh that I had done before and quickly made some changes to it, then I stuck an Arnold Schwazenegger head model I made some time ago on top of that. I'm all into a nice clean mesh, so no triangles or strange loops; an arm is a cylinder from a topological point of view, so to speak. I also try to keep the mesh density constant all over the surface. This makes the base mesh pretty dense though, since you still want a lot of details in your base mesh for deformation - around 16.000 polys for the upper body and head.

While the model looked absolutely nothing like the Hulk at this stage, I exported him to Mudbox and subdivided him once and then started to play around with the big volumes until I was happy with it. This only took a couple of hours, spread over a weekend.

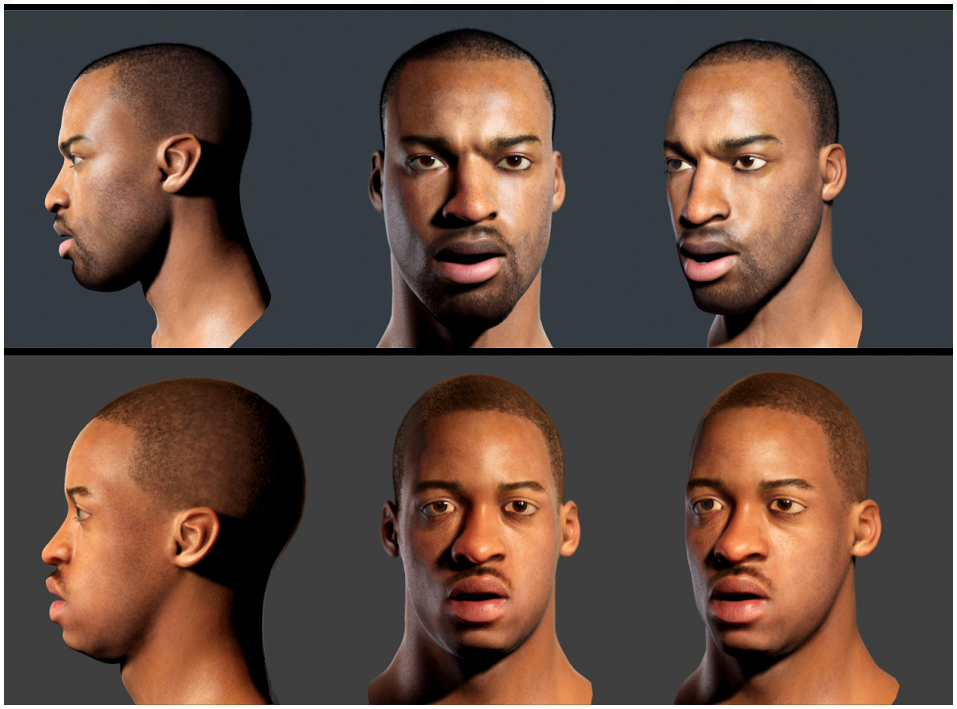
Once I was satisfied with the overall volume, I exported him back to 3ds Max to tweak the topology to better fit the new volume. I then gave him some UVs.

As with topology, I spend a lot of time making the UVs as perfect as possible as this really makes my life easier later on when painting textures. I usually use separate UV layouts for head, upper body, hands and legs so I can keep texture size smaller, however for the Hulk I used one UVset for his upper body and head and a second one for his legs.

Once the UV and topology changes were done it was back to Mudbox again and this time around it was detailing time! I started out with just one or two subdivisions and did the larger details and muscle separations



first. Once I was happy with that, I subdivided it twice more and started on the smaller details like tendons, wrinkles and veins. I almost never do pore detail level displacements, I find it faster to use a good old bump map derived from your colour map.



Have you got any plans to create any of his friends?

Well I do have this image in my head that I would like to do, if I ever get the time for it. It does require him fighting someone, like maybe Juggernaut or Rhino... I'm not a big Marvel comics fan really, so those are really the only two I know of! Any other suggestions?

I like the concept of the Hulk fighting Juggernaut - looks set to be a winner in the hearts of all Marvel fans. I hope you get around to doing it. With literally hundreds of characters to play with, the one that I find very intriguing is Apocalypse. Maybe you should look him up and see what you think. Other than that, I think the two you have chosen are pretty cool.



Apocalypse you say... I like the name, sounds epic!

We have spoken with and interviewed a few of your fellow team members who worked on the Dear Anne movie, which was sadly stopped. What are your thoughts about this and what imp

I can only say that even though it was a really turbulent time, I got to work with some of the best artists in the industry and made some great friends along the way. Work-wise that time was the best, and in some ways, the worst of my career so far, but when I think back on it now I just remember the good times and all the fun we had, not to mentioned all I learned!

I really hope that in the future I get the chance to work with such a talented team and build something up from scratch again.



Why was it so turbulent, or are you not allowed to divulge this information?

Well, for starters, we tried to do the impossible! Then there were loads of problems due to the fact we did not have the financial support needed to undertake a project of that size and ambition. For example, we had a render farm that maxed out around 10 computers if I remember correctly... Then there were script and animatic changes and other creative differences. While it all sounds pretty bad, it was still a pretty exciting time and a really creative environment. Considering we also had to build a studio up from scratch at the same time I'm surprised we got as far as we did.

So what are your plans for the future?

Right now I've been freelancing for a year with my own company, FrostBite Studios, doing character concepts for films and games. It's been great and I've got to work with some great people like Aaron Sims.

From 1st September I will start working full time at DICE (part of EA) here in Stockholm, although I might still do some freelance work from time to time. I did a lot of freelance work for DICE last year and I really like the place and the people working there (not to mention their great future projects!), so I'm really looking forward to this.



What made you choose to settle down in a full time job after having been working freelance?
I will still run my own company on the side and do some freelance at times, so I'm not abandoning it altogether. The main reason is that I miss the creative boost you get when working close with a lot of other very talented artists. It's hard to get that when you are working on your own from home.

Then there's the chance to work on some very big productions instead of just doing a character here and there, as is the case when freelancing. And I also get the chance to completely focus on my work and not have to worry about bringing in new jobs, invoices etc.



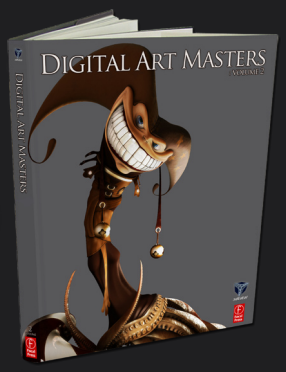
How do you normal spend your time away from the computer screen?
I spend time with my girlfriend and with my friends. Watching a movie combined with some good cooking and a glass of red wine is how we spend the weekends nowadays. I also do a lot of training, mostly in the gym and some running; Stockholm is a great city if you want to go out for a good run! If I have some time left over after that, I like to do some drawing... although it doesn't happen very often anymore!

Well it has been a real pleasure Jonas and thanks you for doing this interview. One last question before we call it a day: if you had the opportunity to bring one of your characters to life, which one would it be and why?
Hard to say, but I guess having the Hulk around would be quite nice!

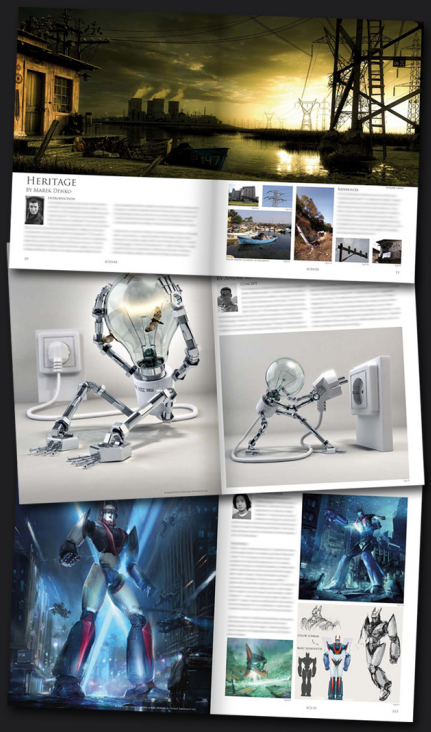
## JONAS THORNQVIST

For more work by this artist please visit:
http://www.subdivme.com
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Interviewed by: Chris Perrins

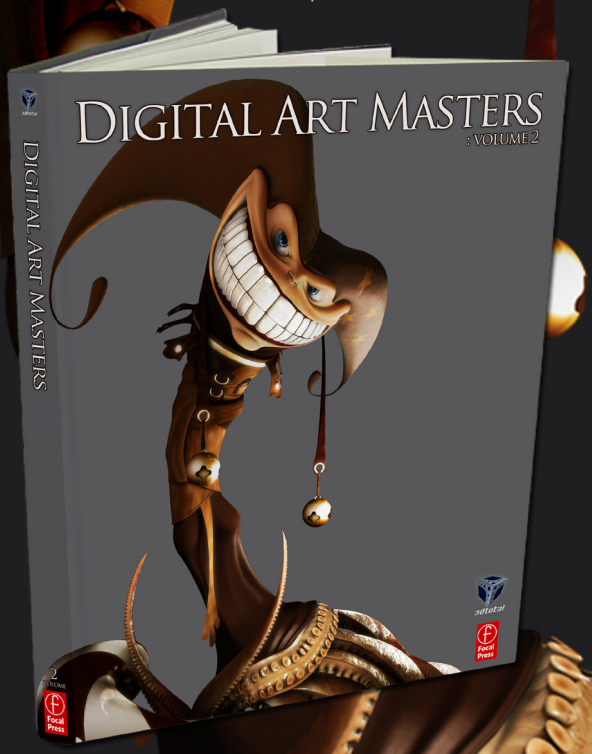
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"I THINK IT'S HUMAN NATURE TO SEEK OUT AND JOIN COMMUNITIES. YOU LOOK FOR LIKE-MINDED PEOPLE; PEOPLE INTERESTED IN THE SAME SORTS OF THINGS YOU ARE; PEOPLE TO LEARN FROM; PEOPLE WITH WHOM YOU CAN SHARE IDEAS"

For the last decade, Neil Blevins has been an inspiration to many in the CG world. As one of the original "greats" in this field he is now as passionate as ever about his work and how we can all work together to learn and develop our skills. His instantly recognizable style and mix of technical yet organic elements means he has been featured in many publications and now we are very pleased to be able to bring you this 3DCreative interview.

# Neil Blevins

# Neil Belvins




Hi Neil! I don't know if you remember this but when I first had the idea to start 3dtotal.com back in 1999, I wrote to you and a few other elite artists at the time asking permission to include your work in a new gallery. I have dug deeply into the 3DTotal archives and found this, a 1997 image which is number 74 in the gallery (which today is over 3,000 images strong - click here to view image). So, as well as taking this opportunity to thank you for helping kick-start one of the largest 3D sites on the net today, I am actually building up to my first question. Tools and techniques have obviously advanced a lot over the last decade but what about your own ideas, theories and goals; Neil, how have these changed?

Well first off, I remember your website from back then - it's amazing that it's almost 10 years later and we're both still around! A lot has changed in that time. 10 years ago I was still in school getting a Fine Arts degree - I was in a very different place in my life. That summer, I finished school, got my first full-time job, moved out of my parents' house and moved 3000 miles away to a foreign country, all in a period of a month.

As far as techniques and theory, I've learned so much. A lot of the images I produced back then were highly based on instinct - for example, I didn't know why a metal object looked like a metal object, I just vaguely knew when it looked right. I have since learned loads about why materials look the way they do, and how to replicate them quickly and accurately. I've also really improved my ability to observe the real world. I am a huge believer in reference, which wasn't as important to me back in those days. I have met and worked with so many talented people who've taught me a thing or two (or three). As far as professional goals, I feel very lucky to have worked at Pixar these past seven years; as far as CG animated features go, they're just the best there is. And I will always have fond memories of my days at Blur - so many of my closest friendships came from that studio. But I have other goals I'd like to fulfil in the future, such as working on live action films, video games, etc. I wish I had multiple clones so I could do everything I want to accomplish.



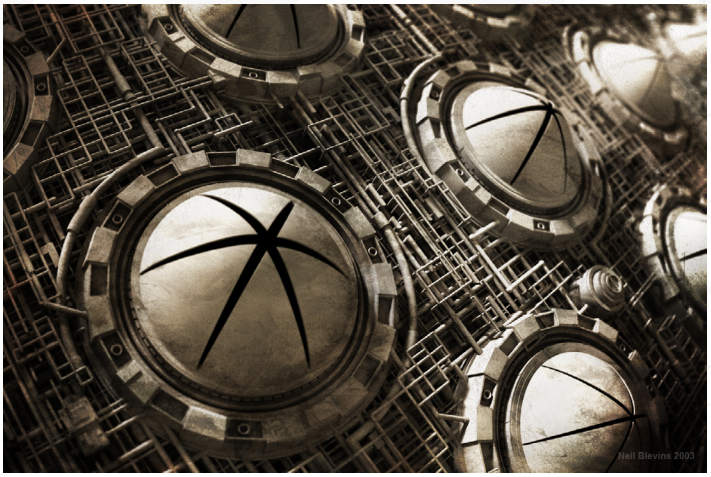
I can see you have been an active member of the Internet community over the years, building your own resources for artists in the form of a library of links and your own sets of tutorials. What inspired you to help others in this way?
I think it's human nature to seek out and join communities (even for people who are slightly introverted like me). You look for like-minded people; people interested in the same sorts of things you are; people to learn from; people with whom you can share ideas. When I first got 3D Studio back in the early 1990s, one of the first things I did was to get a CompuServe account to check out this ADESK forum people kept talking about. That was my first online community, where I got to meet a lot of people I am still friends with today. Hell, being online got me my first industry job at Blur. Things have changed a lot since those days (for example, the Internet became popular and CompuServe is no more), but I still enjoy spending time on forums learning new stuff, and updating my website with the sorts of resources I think would be useful. We're all a big team; one guy decides to make a website that contains links to every maxscript available, one guy makes a similar website for plugins, I release scripts and post tutorials and some guy in Russia makes a plugin that I use everyday to make my artwork. We're a big world of people all trying to help each other out.

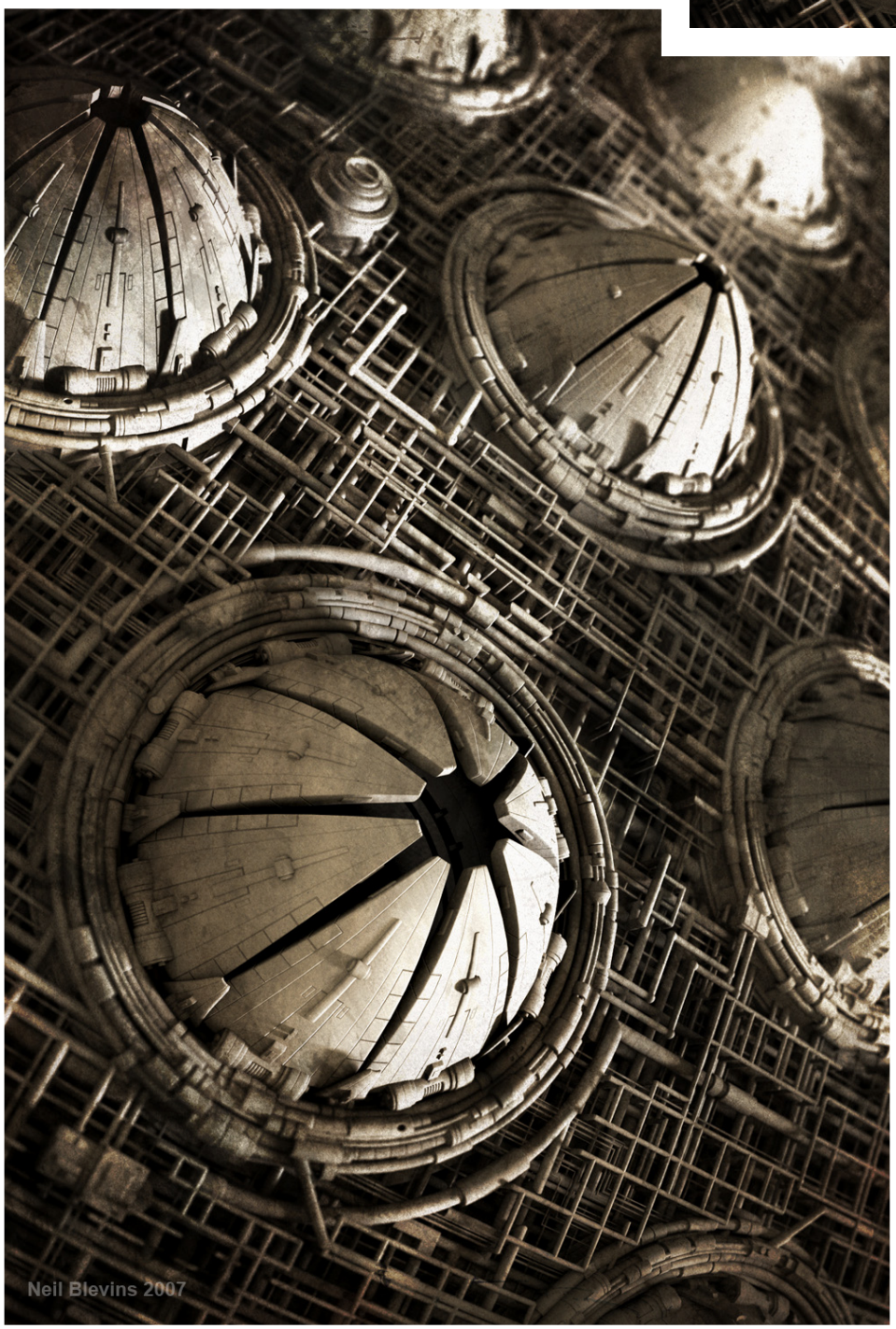
"One big team" - that's an awesome way of viewing the Internet community. Are there any things that you like to see sites do to bring artists and resources together even more? [Gets pencil and paper ready for some possible 3DTotal tips!]
Well, one exciting thing that I'm seeing more and more of is the ability for people to share their ideas through video. This certainly isn't a new thing; Gnomon have been producing DVDs for a long time, but with stuff like Gnomonology, video tutorials on people's sites and 10 min videos uploaded by users showing speedpaintings painted in real-time, it strikes me that videos are the future for sharing info, and asking and answering questions. This is a visual medium, and in some ways it sucks that we need to produce words to spread ideas about. One day, I'd love to read a question on a forum and when I hit reply, instead of a text box appearing, I get a little record button. Then I move over to my favourite 3D application, hit the record button, do a quick and ugly three min tutorial on some function, stop recording, and post the video. Hell, the original question should be in video form as well! Of course you can do all this now if you have the right software installed, and have server space, and do all this prepwork. But I look forward to the day when doing that sort of thing is super-simple (two or three clicks), I think it will be a lot easier to get your point across fast and accurately.



Many of your works have been published in numerous magazines and books and we were very please accept your image “Mouths to Feed III” into our own upcoming book *Digital Art Masters: Volume 3* (I can never miss an opportunity for a plug!) Can you tell us, how it feels to have you work published? Do you expect to gain anything from the exposure? And could you explain a little bit more about this particular image?

I always love to see my work published. You spend so much time staring at a computer screen that it’s nice to see your work in a more tangible form. Also, I remember getting art books as a kid and seeing work by my favourite artists, so there’s a part of me that hopes there’s some kid out there who digs what I do and is having a similar experience. As far as




gains, that’s not really why I do my personal artwork. I already have a good industry job; I don’t need to do work on the side for money or to advance my career. I do it because I love it, because I have this undying desire to create.

The “Mouths To Feed III” image in *Digital Art Masters: Volume 3* was me going back to one of my older images that I was never happy with and getting it to the state I always wish it had been in. Hopefully people will look at the original and the new one and see the progression. But if someone out there prefers the original, that’s cool too - it was an important step in my development.

How long ago did you create the original? Do you think it was your improved skills or software/hardware advances that allowed you to get the image to the level we see now?

The original was created in 2003. I’m a much better modeller now then I was five years ago, which was the main reason to go back. Nothing that was done in the newer image couldn’t have been done technically back then, given enough time. Also, when working on a piece of artwork, you eventually reach a point where you get tired of working on it. Nowadays I tend to leave a piece of work for a few months, and then go back to finish it off. That way it becomes fresh again, and I’m more likely to make the big and important changes that will make a piece of work considerably better than if I tried to finish it all in one shot.




**It is apparent from your works that you concentrate a lot on the atmosphere and how this has worn and weathered your "creatures". Is this one of your main aims with your images and how do you achieve this?**

I love atmosphere. One of my favourite traditional artists is JMW Turner; he creates these skies that are just awash with colour, texture and dirt - spectacular work! I take that inspiration, twist it a little dirtier and darker, and use it for my post-apocalyptic world. The images are made by layering tons of pictures on top of each other. I use 3D procedurals, scanned dirt and dirt brushes in Photoshop, photos of rust and scratches and spills. Layers upon layers using different blend modes. I then combine these with 3D renders and a little hand painting to make my images.

**With so much going into the skies, do they set the tone for the rest of the image? Or is it more that your mechanical creations set the tone for their surroundings?**

I always start with the figure (usually a simple drawing). Then I decide on the predominant colours and lighting in the piece. I then make a low res stand-in creature, then work on the high res background first and get it most of the way to final. Next comes the final modelling / texturing to the figure, then I do the final tweaks to the background. So the figure comes first, but very roughly. The environment is usually the thing that is finalised first, partly because the backgrounds are done in real-time in Photoshop, which is far less labour intensive than the 3D figures.




Where do your inspirations come from and which other artists do you admire?

My works deals a lot with dreams and things that scared me as a kid. I am also inspired by music (band such as Meshuggah, Strapping Young Lad, Fear Factory, Suffocation, Origin, etc), films, video games (found a fantastic shooter called *Ikaruga* recently), and of course other artists. Some of my favourite 2D artists would be H.R. Giger, Heidi Taillefer, Zdzislaw Beksinski, Dave McKean, Ashley Wood, JMW Turner.

Some of my favourite 3D artists would be people like Pascal Blanche, Jonas Thornqvist, Alessandro Baldasseroni, Giovanni Nakpil, Meats Meier, and a ton of others too numerous to name. And I've had the pleasure of working with a lot of inspirational artists. I would list them, but I'm liable to forget someone, so I'll just leave it at that.

Can you tell what you have planned for your upcoming projects?

In terms of personal work, I am in the middle of finishing eight new images, which consist of some 3D stuff, a few paintings, etc. I hope to have them done and up on my site within a month or two. After that, I have a few hundred sketches, each that would make for an interesting project, but I haven't made any picks yet, and will probably take a bit of a break during the summer. I'm a little burned out - these past three years I've been making personal work at an accelerated rate and I need to step back for a bit and regenerate some of those creative juices. I'll also be teaching an Autodesk masterclass at Siggraph this year, which I am preparing work for. At Pixar, I just finished working on *Wall-e*, and I'm currently working on *Up*, our 2009 film.

Wow, I feel tired just reading that list! Considering how busy you are we are even more grateful for the time you're taking to answer my questions. What are you thinking of doing when you take a break from it all? Hope you get chance to call by the 3DTotal.com booth at Siggraph (yep it's another plug!) Seriously though Neil, it would be really great to say hello in person.

When I take a real break, I do nothing. I don't fill my time with some sort of activity other than CG, I just literally want to do nothing: sit beside a pool, stare off into space, maybe watch TV or a movie. Spend time with my wife. Very boring mundane stuff, but my mind needs to fully unwind. And sure, I'll drop by, I'm only at Siggraph for a few days (I'm giving an Autodesk masterclass in texturing on the Wednesday), but I should have a few hours to check out the floor.

Well I hope to see you there! All the best - Tom.

Cheers!

## Neil Blevins

For more work by this artist please visit:

www.neilblevins.com

Or contact them at:

neil@soulburn3d.com

Interviewed by: Tom Greenway



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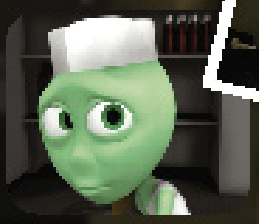
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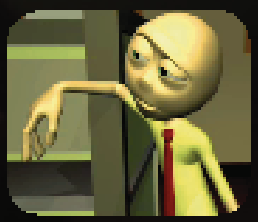




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"Our studio is often asked to devise a method to achieve a visual look or effect that contributes to the overall story of the piece. We also never stand still. Keeping up both technically and creatively is the only way to survive in this business…"

# With a twist

## Studio



Being a studio that thrives on challenges, With A Twist Studio knows how to work hard and play hard. We chat with them about their current projects and also their "extracurricular" activities ...

with a twist studio

# With a twist Studio



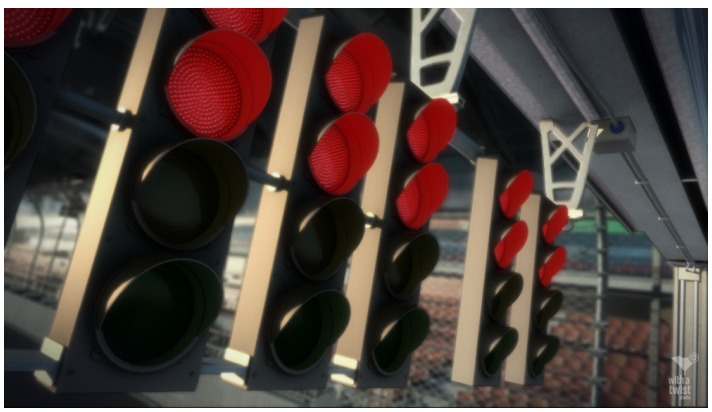
Hi David, could you tell us a bit about how With A Twist Studio came about? What were the motives behind setting it up?

We were involved at the beginning of the CGI changeover in the automotive sector. With A Twist Studios came about to answer a need for photorealistic, drop dead gorgeous images for Automotive Agencies worldwide. Our experience with HDRI imaging and traditional photography has made the transition to CGI a little less bumpy for Art Buyers and Creatives on the agency side.

We have one motive/motto/mantra: “Best Picture Wins!” Everything we do, from hiring artists to purchasing equipment, goes towards that single focus: “Best Picture Wins!”







With an impressive portfolio of work, which projects are you most proud of and why, and which has been the most challenging?

Our most challenging job was the recent International launch of the Nissan GTR for The Designory. It was a five month, 70 shot project, in every kind of weather situation. What I am most proud of is not just the work, but also our talented, dedicated team of artists who will stop at nothing to be the best.

Five months sounds like a very long project to be involved with. Is this normal in terms of time scale or was this a one off? Also, did your team get any special treats on completion?

The show was 70 shots, plus colour selectors, so five months for completely digital work including concept, and layout time really isn’t long. It’s the equivalent of 4+ commercial spots. Special treats? Well, we have a pretty well stocked bar at the studio ...

With most of you work being very automotive oriented, what areas, if any, would you like to expand into more in the future?

We are expanding more and more into old fashioned VFX work. Water,

smoke, dust. Photoreal visual effects that you shouldn't even notice are added.

Learning these new tricks, where do you hope to see yourselves in five years time?

I really don't want our studio to get much larger than 50 artists, but that's where we want to be in five years. We have a terrific core group and are starting to expand comfortably. Our involvement in feature VFX work has started to increase, and with the Michigan Film Incentives of 40% in place, I expect our feature VFX workload will also increase.



In what area would you say your studio excels?

We are visual problem solvers. Our studio is often asked to devise a method to achieve a visual look or effect that contributes to the overall story of the piece. We also never stand still. Keeping up both technically and creatively is the only way to survive in this business.



So what's the weirdest thing you've been asked to achieve?

I once had to stop-frame animate steaks. Tough job to finish before they cooked under the hot lights!







So what's next on your agenda?

We are designing and producing the International Launch for the Dodge Journey Interactive site, and Martini Fridays are starting back up now that it's summer!

Could you tell us more about your plans for this new launch?

We are already getting a lot of interest in directing interactive and commercial CGI spots.

The studio seems to have a lot of fun, though the unicycle mayhem video looked dangerous. But the one thing that I'm interested about is who came up with the "Twisters" game? And has any one broken Lafond's record?

All of our "extracurricular" activities come from the minds of our crew, who are always looking

for another challenge - whether it's a new lighting technique or mastering the unicycle. Basically we work as hard as we play.

Sounds like serious fun, reminds me of when we had our studio decathlon, maybe we should exchange some game ideas.

We are launching the donut-cam in two months. That's about all I can say about it right now.

Well it has been a real pleasure chatting with you and I wish you all the best for the future

## With A Twist Studio

For more work by this artist please visit:

http://www.withatwiststudio.com

Or contact them at:

info@withatwiststudio.com

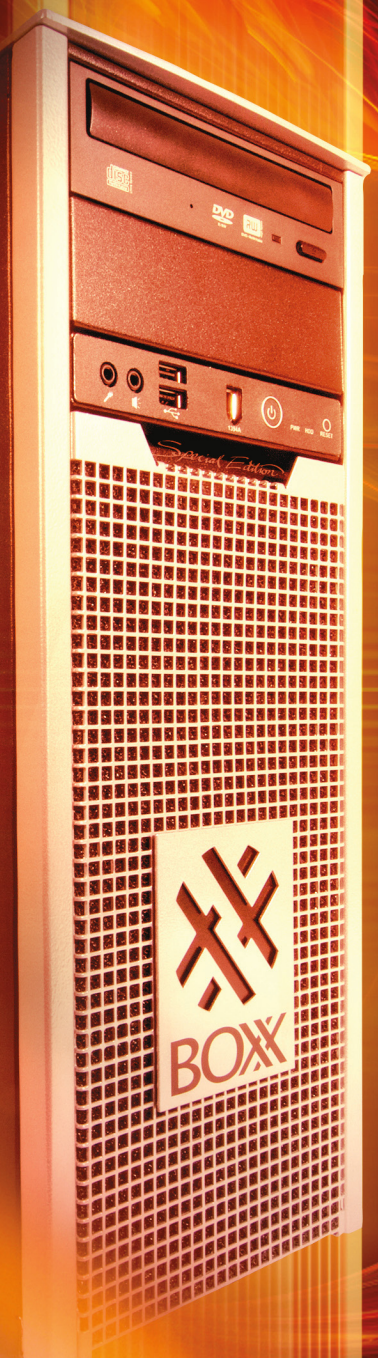
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# TIM APPLEBY



"I LOVE TO LEARN NEW SKILLS AND FIND THE NEW EXPOSURE LIBERATING. I THINK IT'S CRUCIAL FOR ARTISTS THAT WORK WITH TECHNOLOGY TO EVOLVE WITH THE CHANGES."

Tim Appleby is passionate about making games and has recently worked on the acclaimed *Mass Effect*. He specialises in character creation and his love of horror films and the disturbing world of H.P. Lovecraft has helped fuel his imagination and creature designs.

# TIM APPLEBY



Can you talk a little about how you got into the games industry and what it is about this particular sector of CG that you really enjoy?

While studying at University I wasn't certain what job I wanted after I eventually graduated. I had bought myself a PC to do my college work on a few years earlier, and had always been an avid gamer, but it was by chance that I discovered how game art was created.

I was playing a lot of *Quake 3* and I started to download custom player models and was amazed at the variety available. I became curious about how the models were created and







found a great online forum called Polycount. It was on the forums that I learnt the fundamentals of 3D and game art and it so exciting for me that I decided to drop out of university and spend several months putting a portfolio together. Fortunately I landed my first job and I haven't looked back since.

What it is about this particular sector of CG that you really enjoy?

I have always loved games and I've been playing them since the day my Dad brought a Commodore 64 home, so it's a big thrill to be making them. I enjoy the fact that I can be creative at work and spend my time working


3 KINGS

collectively with so many talented people. I enjoy the camaraderie of the team and also being able to hear from other people how much they've enjoyed, or even disliked, the games I've been working on.



**Being creative at work is obviously important to you but do the technical aspects of developing games ever counteract this freedom at all?**

I think it depends on your perspective. I know some artists who thrive on having restrictions in place and others who struggle to adjust to them. Personally I enjoy working within the technical constraints that games provide. With every new generation of console technology there are new techniques to learn and I love pushing myself to discover what I am capable of doing within these limitations.

The restraints can drive an innovation of their own, and it can be incredibly satisfying to formulate and realise good looking procedural systems within games. I had a lot of fun working with Mike Spalding (Lead Character Artist) and Ben Hindle (Lead Technical Animator) on the customisation system for *Mass Effect*. The system had very strict texture limitations and texture look up restrictions in place, but





with careful formulation we created a fun, powerful system which meant that not only would the game be populated by characters of varied appearance, but they would also fit within their memory constraints.

**What prompted your move abroad and consequently your return to the UK?**

I moved to Canada to work at Bioware after having being contacted by an artist who had gone to work there. It was a great opportunity to work



on an Unreal 3 Engine powered game and also work with some very experienced and highly esteemed developers. I certainly leant a lot at the studio and had a fantastic time in the process, however my wife (who had relocated with me) needed to return to the UK to study and increase her professional opportunities.

**You mention working on the award winning *Mass Effect*. What do you think makes the game so successful, and in what ways did it prove to be "a great learning experience"?**

I think *Mass Effect* is a unique experience, offering a strong story-driven game that allows the user to drive their own destiny. The immediate parallel I can make is with the old, "choose your own adventure books", however with *Mass Effect* you not only choose your own adventure, you battle in real time and get to watch everything unfold before you.

The art style of the game was distinct and vivid, requiring a lot of clean modelling and texturing. It pushed me to a level of realistic modelling and texturing that I hadn't achieved before and I adapted to the style well. Working with a great team and using the Unreal 3 Engine gave me some great exposure to creating shaders and also a lot of insight into customisation systems, since I spent a lot of my time helping rework all the assets used for the player customisation.







In addition to the Human heads I was also privileged to be able to create a lot of the Alien species heads and in the process was exposed to the facial animations systems. So I was immersed in technology and techniques that were new to me; an ideal situation to learn from.

You have highlighted the importance of exposure to new technology and techniques which enabled you to learn new skills. How important do you think this process is in your industry and is it something that happens less the longer people stay in the same company?
For me personally it's a very important part of the job. I love to learn new skills and find the new exposure liberating. I think it's crucial for artists that work with technology to evolve with the changes. I don't think people who stay in same company for a long time necessarily get exposed to less technology, or desire less to learn. I mean you can work in a single company your entire career and be exposed to other game engines through modding options if so motivated; it really depends on the individual.

I also think there are roles out there for artists who are less willing to embrace technology. Like any team, a group of game artists working together will have their own strengths and weaknesses and as long as the balance of technically minded and artistically minded individuals is even then things work out well.

What do you feel are the main skills that you need to have to survive as a character artist in the games industry?
I think that to survive as a character artist you need to be adaptable, humble and determined. I think artists need to not only have talent but be aware of the realities of business; that you don't always get enough time to do your absolute best on something, but you do the best you can within the time frame available to you. You need to be able to work collaboratively with others and not be too possessive with the work you've done - don't try to take ownership of it. Having other artists work on the assets you've created, or even replace them as the development progresses, is simply a part of the industry and it's the artists who can be professional and deliver quality work that will continue to survive in the industry.



You need to be humble. There will always be someone better than you, or faster, and if you can swallow your pride and ask them to teach you, you'll never be lacking for techniques or friends. It's a really great industry for sharing as everyone out there has different experiences or backgrounds, so no matter the person there is always something you can learn from them. Of course having the determination to continue to push yourself outside of work is a great quality to have. Nearly all of the character artists I've had the privilege to work with have done work in their spare time, either pushing themselves to try new software or simply improving their familiarity with anatomy or painting techniques. All practice is useful and personally I still learn an awful lot from forums when I post my work there for critiques.

Can you briefly describe your usual pipeline for creating normal mapped characters and the general challenges the job presents?
I start off working in Max, creating rough low poly meshes for sculpting on in Zbrush. Often I do a quick concept sculpt to help determine the form of the model and use this as a reference for my real detailed sculpt. I still like to do my hard surfaced modelling in Max but tend to do as much organic modelling in sculpting packages as possible.

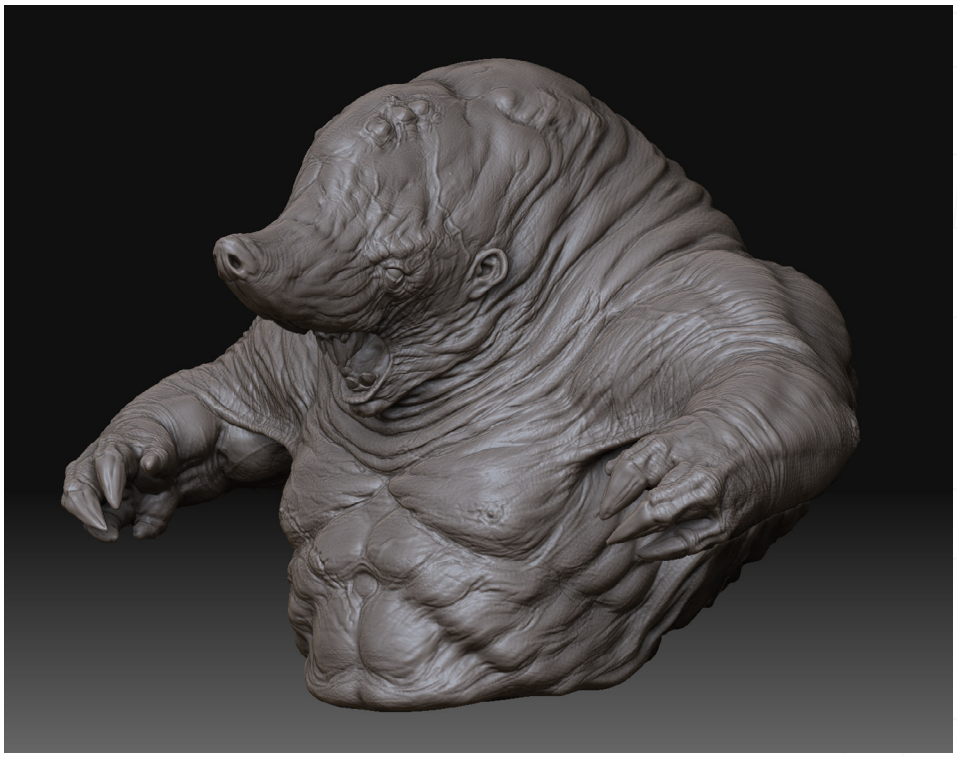
After the high poly work is done, I often run it through polygon reduction tools before importing it to Max to create the low poly around. I try and reuse low poly meshes as much as possible, but also use the draw tools available in Polyboost to create my low poly mesh directly on the surface of the high. Normal mapping in Max is a piece of cake and I'd bake an ambient occlusion there and also a basic diffuse map too.

I think the real challenge with normal maps is ensuring that your lighting and specular show them off effectively. As games and technology continue to become increasingly complex, the number of dependent factors increases exponentially. Character artists have to rely on either being able to control the lighting that will affect their characters or being informed very early on in the project of what their expectations should be.





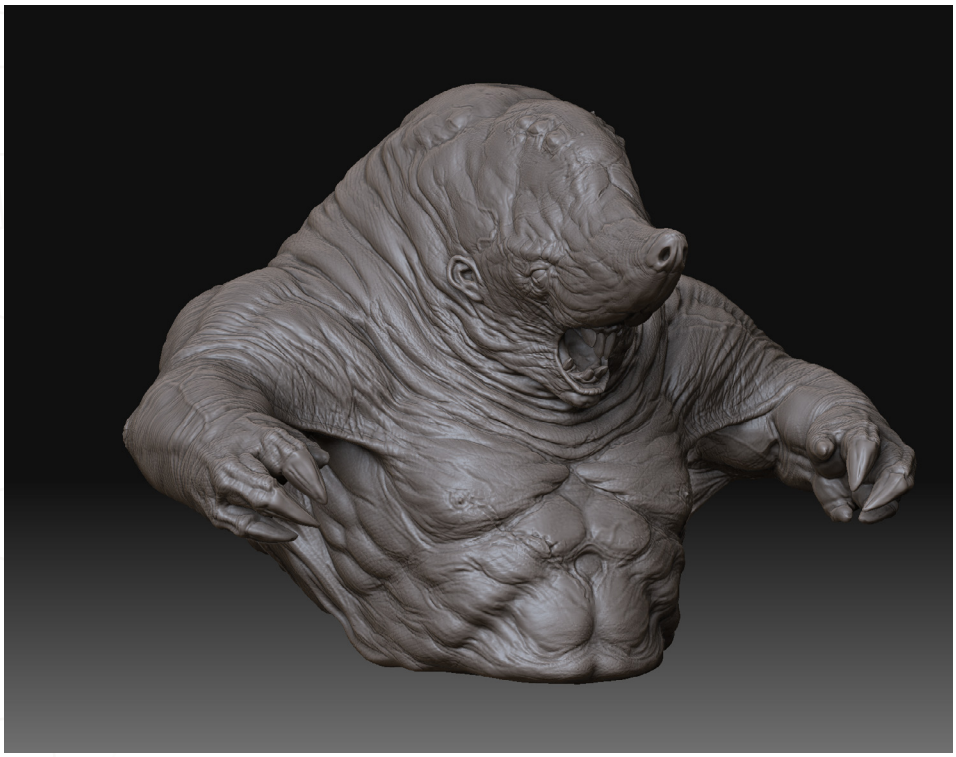
The artist can create the most fantastic piece of artwork in isolation, however, if it's not created with knowledge of how it will be used and in what kind of conditions, then it certainly won't live up to its full potential when finally revealed in a game.



I assume this was the pipeline which many of the characters that can be seen on your website followed. Can you tell us a little about some of them and the impetus behind their creation?

Yes, that's typically the work flow I follow. Well the most recently fully completed character is a tribute to *Quake 3*'s Sarge. I really love the idea of the grizzled war veteran and Sarge seemed the pinnacle of those traits... combined with my affection for *Quake 3* it seemed a logical step to re-imagine him.





Wanting to make the design my own, I set about concept sculpting the rough proportions and ideas for some of the primary shapes that would define him. In particular on this piece I wanted to push myself and work in a lot of details (something I often do in my personal work) as I had previously created a different character with a lot of detail, but failed to compliment all the texture. I thought that Sarge would be a good way to tackle that challenge and hopefully create something fun in the process.

After the initial rough sculpt, I took the mesh back into Max and started the construction of all the sub-d meshes that would constitute his armour. At the same time I also took the organic mesh into Zbrush and started to detail the flesh and refine the areas that would be exposed on the final piece.

The sub-d work was quite painstaking so I was very glad I had organic sculpting to break things up otherwise I might have lost my motivation. In the end, I took the whole thing into Zbrush and added the final touches to it before I was ready to call it done. I had to export it into a lot of .obj's, but I batch processed them and reduced their polycounts down to manageable levels in order to get them into Max. After that, the low poly mesh and texturing were the obvious steps.



I'm quite happy with the final results but I certainly think I could have benefited from experimenting with the silhouette more. It's not particularly distinct, however I did achieve a balance between the modelled details and the texture. I guess the next character I work on I will need to ensure the silhouette is strong too!



**Which characters have impressed you the most in games?**

I have been very impressed with the quality of the character art coming out of Ubisoft Montreal. Nearly every major franchise they have released has had high quality characters with generally complimentary lighting too.

I enjoy dark and grungy styles of games, with my preferences leaning towards most things horror related. The twisted forms of *Silent Hill*, fantastic monster designs of *Doom* and the overly detailed meat heads of *Gears of War* all appeal and fit with my personal aesthetics. I was also very impressed with the quality of the characters in *Heavenly Sword*. Not only were they well crafted and artistically pleasing, but I felt the acting applied to them set them apart for me, with really strong performances and personality beyond the visuals.



**If you had the opportunity to design your ideal game, and all the characters, what would it be about and what would they look like?**

If I could design my ideal game it would involve Robert Rodriguez or Quentin Tarantino... or both! I loved what they did with *Planet Terror* and

*Death Proof* and would jump at the chance to create a game with a similar style and overall tone. Fun, dark and a little bit over the top. I grew up on a diet of horror films and so anything that involves a backwater town under invasion of swamp dwelling mutants, or a serial killer stalking his prey, would get me excited. I'd also love to make a game that looked like a Frazetta painting - but not necessarily a B movie style monster game!



If you had the power to bring back the dead who would be the first person you would resurrect?
I would resurrect Howard Phillips Lovecraft! I really love how he crafted his own mythology and made his monsters and aliens the persistent characters in his stories. His worlds are terrifying and make the struggles of man seem insignificant next to these immense forces that exist. Humanity could be crushed at a moment's notice and he masterfully taps into that primeval





fear, the same fear I imagine our early ancestors would have felt when they stared at volcanoes erupting, wondering what deity they had angered.

## TIM APPLEBY

For more work by this artist please vis
http://badpolygon.com/
Or contact them at:
bdimonkey@hotmail.com
Interviewed by: Richard Tilbury



"It's kind of funny how this industry works. Word spreads extremely fast. It takes just one good piece to get noticed and recognized"

# How did you get exposure when you were just starting out?

This month, we have asked 3D artists from a variety of backgrounds and locations around the world:

## How did you get exposure when you were just starting out?

Here's what they said...

# How did you get EXPOSURE when you were just starting out?

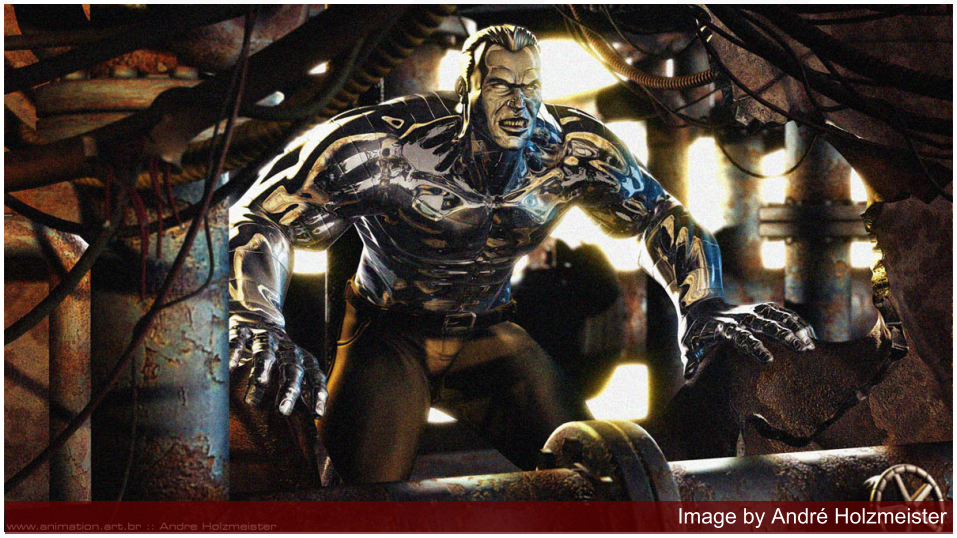


Image by André Holzmeister

## Adrian Tiba

**System Engineer, SC Infologic**

Oradea, Romania

I started on my website and then posted my work on lots of different CG websites.

## Ali Ismail

Digital Artist, Lucasfilm Animation, Singapore.

Word of mouth and the Internet.

## Anders Lejczak

Project Manager, Framfab, Malmoe, Sweden.

I sent a couple of renders on a floppy disk to the MacFormat magazine in the UK. I think it was in 1995.

## André Holzmeister

I started in a time when there were more technicians than artists, back in 1994. It was not hard to get exposure in my home town; there were not many people doing 3D back then. When the Internet came, I used the forums to get exposure and then I started to get some national, and later international, exposure.

## Andre Kutscherauer

3D Designer, Studio Messslinger Gmbh, Munich, Germany.

CG Communities.

## Anna Celarek

**Student,** Vienna

In one forum I posted pictures describing multiple ways to kill a penguin. Technically they were rather crappy (my first steps in 3D), but the people found them funny, so I was put on the front page and got a lot of attention with that.

## Bogdan

With plenty of hard work and a lot of luck. I managed to get a job in a 3D company after they saw the still 2D images that I'd attached to my resume (made in Photoshop, Corel, Illustrator and Quarkpress). These images were of more interest to them than what it said on my resume.

## Cesar Alejandro Montero Orozco

CG Artist & Freelancer, Digi-Guys, London, UK & Mexico.

Doing great work and posting it in forums. Never set a bench-mark based on the work of others. Help others, and allow others to help you. The more you give, the more you will get in return. Harvest what you want for your future.

## Dana Dorian

Director, Axis Animation, Glasgow, Scotland, UK

I worked for free to break into CG animation, and I feel the best way to get exposure is to make, or work on a short film. A short film can be your calling card, especially if it wins awards and it's clear what your contribution was.

## Daniel Vijoi

I began by posting artworks on a number of big sites and receiving feedback for my work - at the same time, making myself known. When my work started to be appreciated, the interviews came and so on.

## David Revoy

I opened accounts to post in the galleries of CG websites. I open a simple portfolio website too.

## Eric Provan

3D Modeller, Sony Pictures Imageworks, LA, USA.

Well, I still consider myself "just starting out", and I've found that websites, online forums, and magazines are a great way to get exposure. Exposure is huge for CG artist just starting our because it can be used as a weapon against the "three years experience needed" monster.

## Eugenio Garcia

3D Illustrator & Animator, GrupoW, Saltillo, México.

With forums of digital art, where people could


Image by Cesar Alejandro Montero Orozco

give me feedback. The same forums inspired me to do improve my artwork.

## Gustavo Groppo

General 3D Artist, Mamute Mídia, São Paulo, Brazil.

Sharing information and learning from veteran artists. Using their work as references. Being a member of forums was a great way, although the exposure doesn't comes with a simple touch, it comes through hard work and a lot of patience.

## Hasraf Dulull

Visual Effects Artist, The Moving Picture Company, London Soho.

Made a website with my stuff on and posted regularly on forums where the web link would be in my post signature.

## Jure Zagoricnik

Web Developer & 3D Freelancer, Hal interactive & 3D Grafika, Kamnik, Slovenia.

On the web (forums, websites etc).

## Liam Kemp

I created a website of my work, then emailed a couple of CG websites and they each posted a link to mine in their 'news' section. It all took much less effort than I ever expected!




Image by Vojislav Milanovic

## Matt Westrup

Went to an illustration agency whilst at college and was taken on immediately. They then got me the work.

## Michael Seidl

3D Artist, Modelling & Rendering, www.michaelseidl.com, Vienna, Austria.

I remember posting my first work at Threedy.com, and a lot of people gave me feedback and tips on how I could improve. Since then, I always post my work there and I have to say, that I've learned a lot from the people there!

## Neil MacCormack

Freelance 3D artist, Bearfootfilms, Geneva , Switzerland.

Submitting images to websites and books; creating tutorials; participating in online forums.

## Nicolas Collings

I posted all my personal works on forums like cgtalk.com. Actually, I still post my works in progress on forums so that I can get feedback and keep improving my skills. And the best way to do that is to listen to other people's opinions about your work.



Image by Zdenek Urbánek

## Pedro Mendez

I put a lot of effort in and people saw how fast I was moving and started to notice what I was doing. Then they just started to call.

## Pete Sussi

By being really critical of my work. Looking at other pieces of art that I liked and asking myself, can mine compete? If not then I knew that it wasn't ready. I find that if you put good work out there, you'll gain the respect. It also helps to stay active in the community and put your work under people's noses.



Image by Neil Maccormack

## Peter Sanitra

3D Artist, imagesFX, Prague, Czech Republic.

I was posting on forums a lot; I wrote a few tutorials and so on.

## Petra Stefankova

Through the Internet forums and communities, directories, awards competitions and exhibitions. And through my quite well-indexed homepage on Google!

## Rich Diamant

Web pages mostly. I think cgtalk was probably the biggest help. It's kind of funny how this industry works. Word spreads extremely fast. It takes just one good piece to get noticed and recognised. Once you get that, exposure some how just falls into place.

## Sean Dunderdale

I took on any CG jobs that were offered when I was at uni, whether the money was good or not. These gave me experience and various pieces for my showreel that I otherwise would've been without. I used forums to show my work, took on board the positive criticism it received and eventually my work was getting featured in magazines and front-paged on CG websites.

## Sorin Radu

By posting on forums and participating in forums competitions.

## Stepan (O)ne Grakov

It was very interesting for me and also a real challenge – I had to learn how to show people everything that had just been in my thoughts before. Computer art is a really good way for a person to do that.

## Sven Rabe

3D Artist, Germany.

Mostly through the Internet. It's just great to have the opportunity to post your artwork on 3D sites like 3DTotal, so thanks a lot for the opportunity you're giving us.

## Tiziano Fioriti

Freelance 3D Artist & Digital Matte Painter, Italy.

I like to see myself as a beginner to this day; it's a mind-set that allows me to keep my curiosity alive. I started by sending my pictures to forums and to the most famous portals. When they were published, I realised that I hadn't wasted my time. Sometimes it happens that fledgling artists from all over the world get in touch with me and congratulate me on my works. In those moments I feel very encouraged and I really understand that I am on the right track.

## Tycane

3D Developer & Designer, NDG, Amsterdam.

Well I am still starting out, really. The little exposure I have had so far is via word of mouth, and now a bit by 3DTotal and 3DCreative mag - which is greatly appreciated!

## Vojislav Milanovic

General 3D Artist, Animated Biomedical Productions, Sydney, Australia.

I actually haven't. I spent a few years learning without actually making anything. My first paid job was a TV ad for a new building. I wish I can feel now the way I felt when I saw my first work on TV!

## Zdenek Urbánek

Student, Liberec city, Czech Republic.

I mostly posted on Czech CG websites, like www.3dgrafik.cz and others.

# Evolve at SIGGRAPH2008

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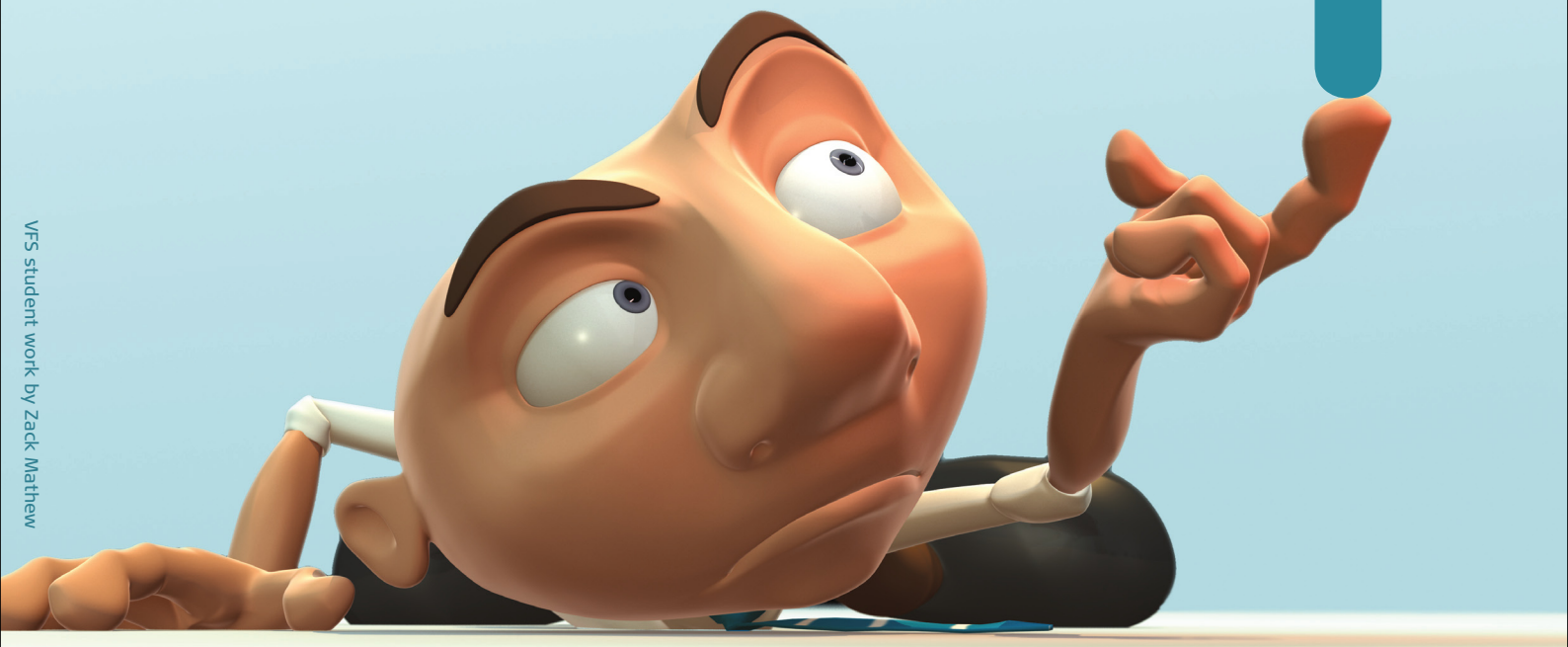
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VFS student work by Zack Mathew

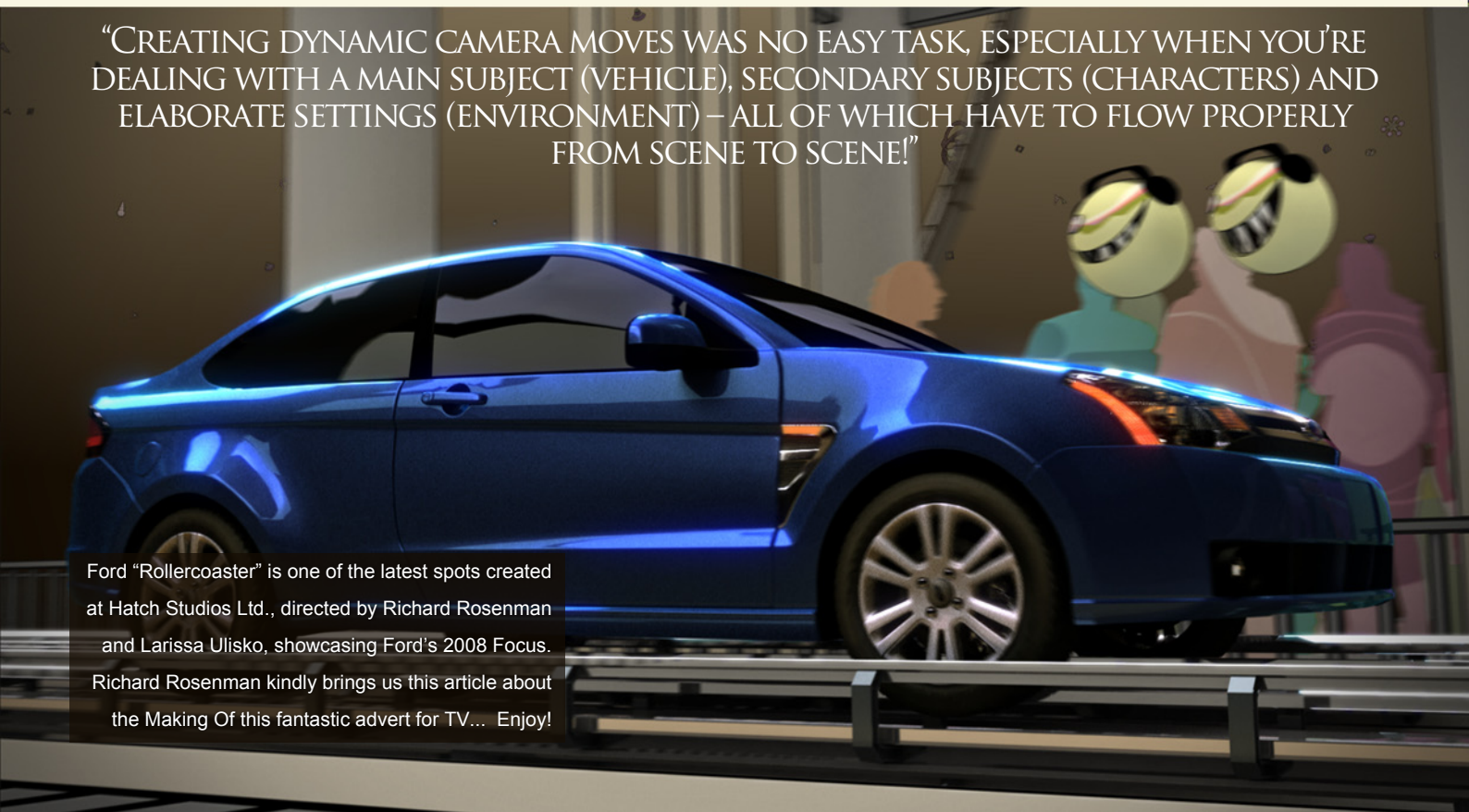
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# Rollercoaster

"Creating dynamic camera moves was no easy task, especially when you're dealing with a main subject (vehicle), secondary subjects (characters) and elaborate settings (environment) – all of which have to flow properly from scene to scene!"



Ford "Rollercoaster" is one of the latest spots created at Hatch Studios Ltd., directed by Richard Rosenman and Larissa Ulisko, showcasing Ford's 2008 Focus. Richard Rosenman kindly brings us this article about the Making Of this fantastic advert for TV... Enjoy!

# Rollercoaster

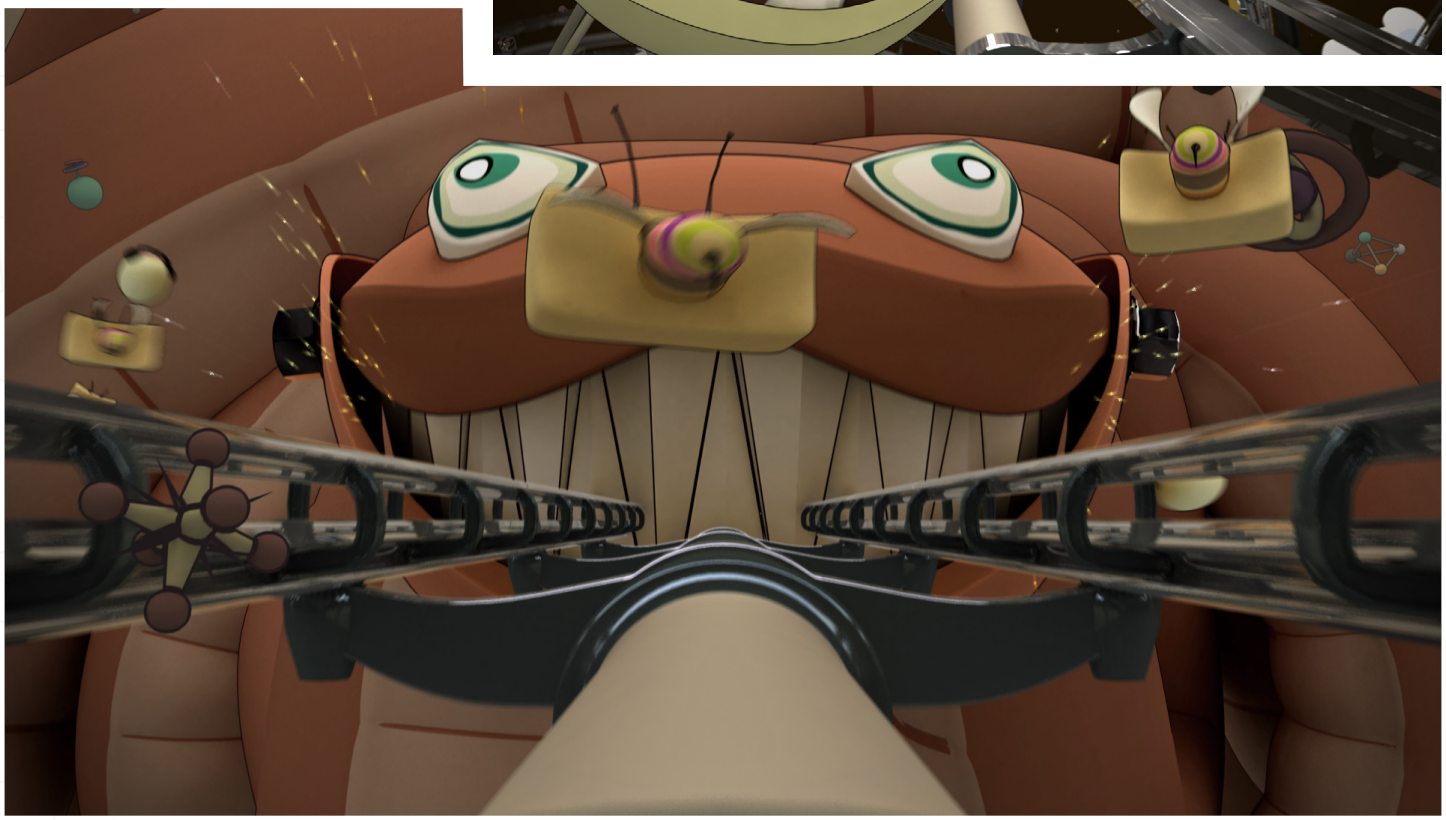
## Introduction

Inspired by Japanese illustration, the spot relies heavily on the seamless integration of cutting edge 3D computer graphics combined with bold 2D character designs, both existing in a lavish and rich multimedia environment. In addition to creating a visually compelling spot, we also focused on developing a simple sub-story, involving aggressive and chaotic characters attempting to “catch” the Ford Focus. This provided a setup for a wild car chase, in which the Focus invariably out-manoeuvres the characters in a climatic and explosive finale!

During the story development, we carefully chose when and where to introduce specific characters.  By starting with only a few smaller







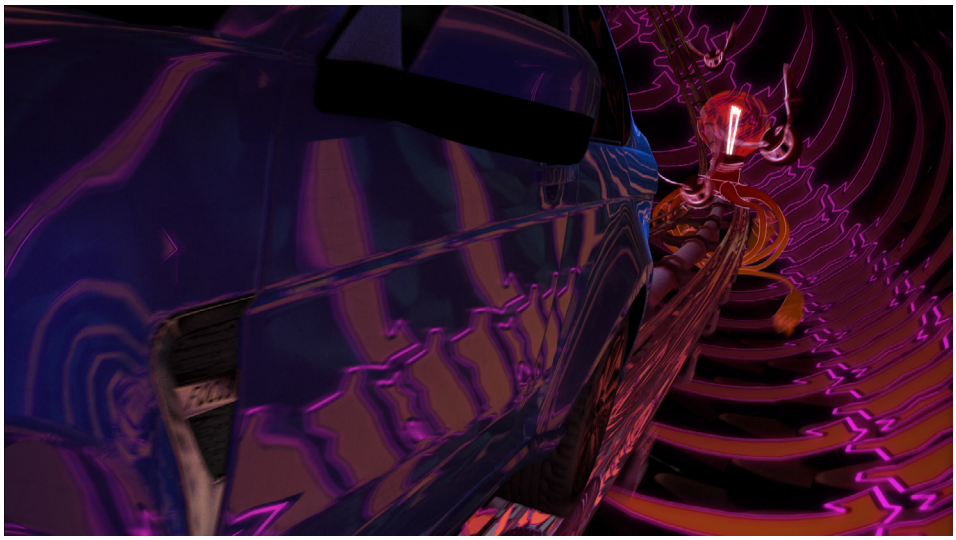


characters and progressively adding larger ones to the lot, we also effectively created tension in the storytelling. This can be seen with the introduction of the simple monitor bees at the start of the spot, to the final gremlin character that is larger in size, more powerful in appearance and very aggressive in nature.

Creating dynamic camera moves was no easy task, especially when you're dealing with a main subject (vehicle), secondary subjects (characters) and elaborate settings (environment) – all of which have to flow properly from scene to scene! As a result, careful editing was crucial in order to allow the viewer to become fully immersed in the spot and ensure their attention wasn't lost due to poor cutting. A rough storyboard, as well as an animatic, thus ensured that we were on the right track from very early on in the pre-production stages.

## Technical Info

To create the unique visual style of the spot, including the tight integration of 3D and 2D elements living together in one world, all elements had to first be created in 3D. Rough character designs were initially developed on paper and, once approved, were modelled within 3ds Max and Silo. After the rigging stage, the animators were able to quickly produce the animation we were after, allowing us to begin the lighting and rendering stages. The rendering of the graphic elements was produced with VRayToon, which allowed fully raytraced 2D objects to be reflected, refracted and interactively lit with the surrounding 3D objects. This was important since the vehicle needed to reflect its surrounding environment in order to properly fit into this surreal world.



In addition, global illumination rendering yielded a distinctive look in which 2D objects retained their flat, two-dimensional look, yet fully interacted with the environmental lighting and contributed to the global illumination solution. Certain characters cast radiant light on their surroundings, and some even illuminate sections of the scene, such as the light bulb octopus with its vibrant filament. All of these reflections can be clearly seen distorting across the vehicle's body, which helps in highlighting its sleek, organic frame.



Blurs, with the exception of 3D motion blur, were rarely used in this spot as this conflicted with the graphic style, and so depth of field was simulated through the use of colour desaturation and lower contrast levels. Depth maps were generated and used as mattes in order to remove attention from distant objects and focus the viewer's attention on the foreground characters.

The palette was also carefully chosen for this spot. Since it was decided that the Focus would sport an electric blue paint job, we made sure no other blues were used throughout the spot. This made the vehicle stand out from all of the numerous other on-screen objects, as did the car's highly shaded look, contrasting the flat coloured characters.

The roller coaster tracks were also carefully used in order to frame particular shots the way we wanted them. Using these props we were able to twist, bend and rotate sections of the track to place them in the foreground and background in a manner that would beautifully frame each of the shots.

Additional effects and colour correction were done at the online session, such as pushing the tunnel sequences to have more of a glow-in-the-dark effect, once again casting luminous highlights across the car as it continues travelling down the serpent's belly.

The spot was a pleasure to work on, from both a creative and technical standpoint. In addition, we were fortunate enough to work with very open-minded agency creatives and clients, all of whom were as much into the project as we were.

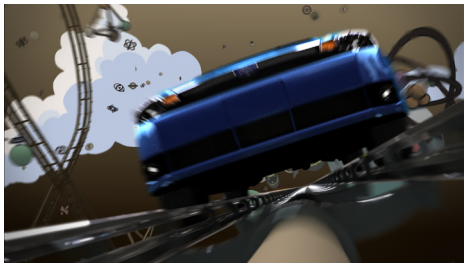
This spot was modelled using Silo & 3ds Max 9.0. It was animated and textured with 3ds Max 9.0 and rendered with V-Ray 1.5 RC3, including V-Ray Toon. Compositing was done with After Effects and Inferno.

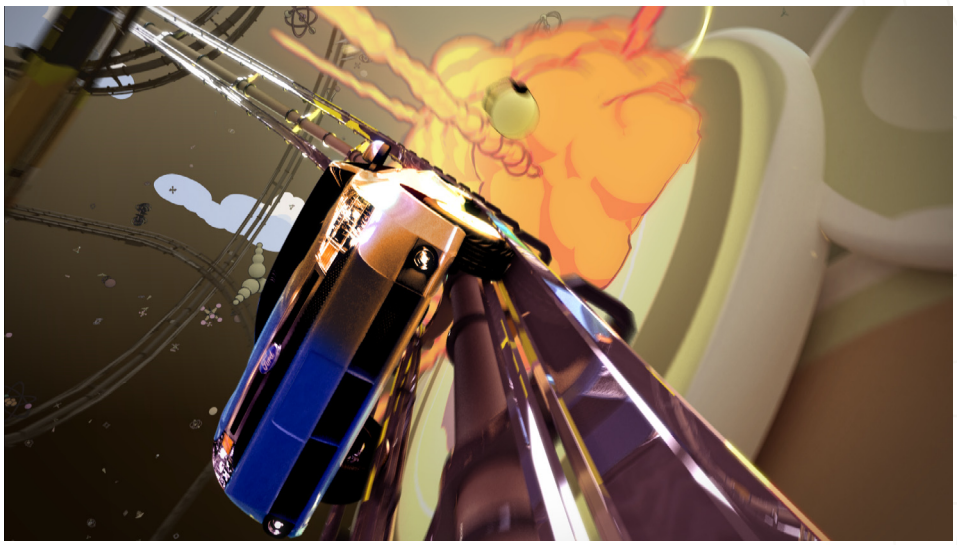
## Project Credits:

Directed by Richard Rosenman & Larissa Ulisko
Exec. Produced by Randi Yaffa
Produced by Holly Nichols
Character Designs by Chris Cann
Modelling by Chris Crozier, Rowan Simpson, Abdul Ali Mohamud, Raden Slipicevic









Animation by Scott Guppy & Kevin Vriesinga
Texturing by Marcin Porebski, Steven Hollman
Lighting & Rendering by Richard Rosenman
Compositing & Design by Larissa Ulisko
Online at Technicolor by Alex Boothby
Pyrotechnics by Bondi

## Created at Hatch Studios Ltd.

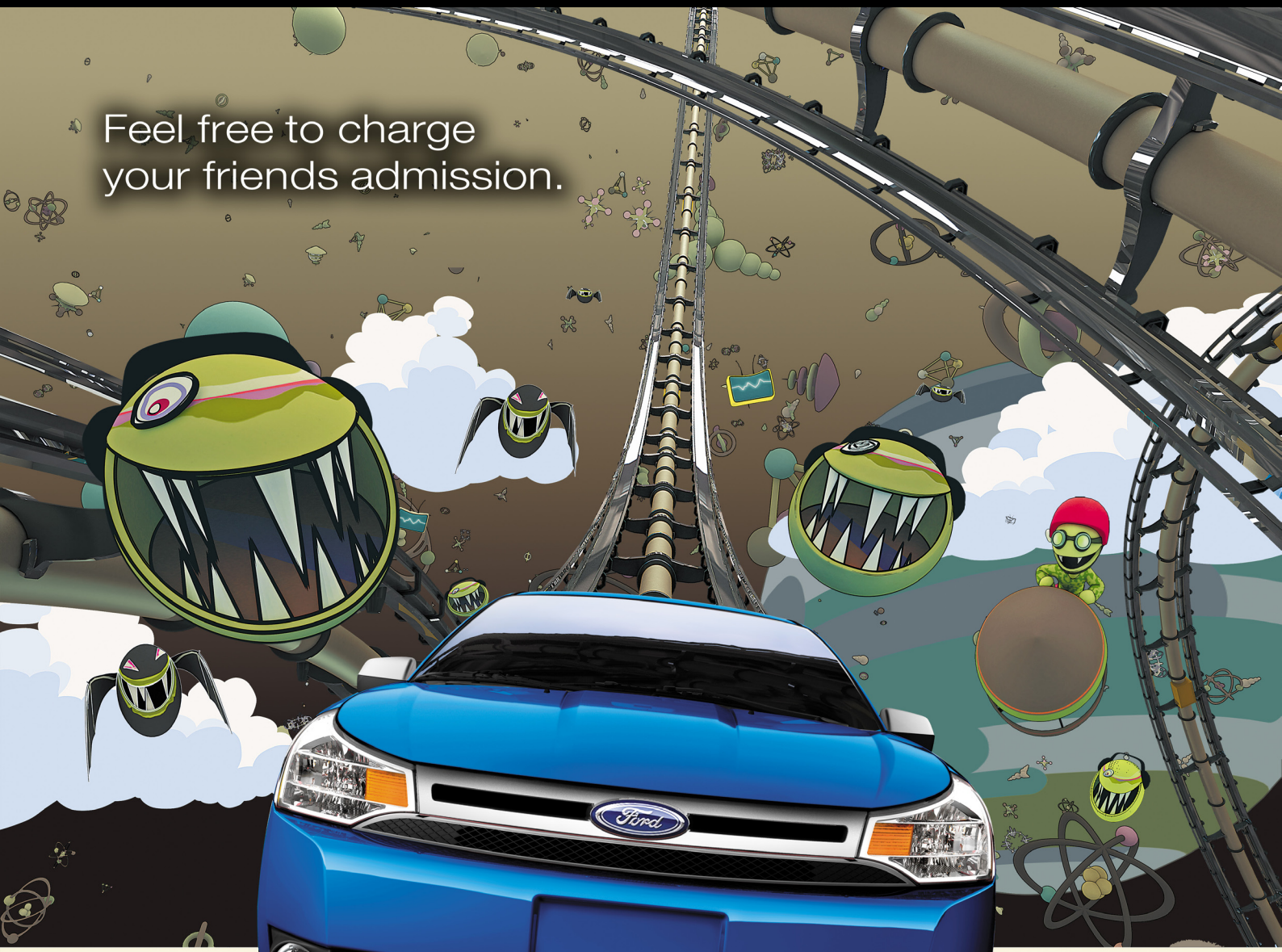
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## Richard Rosenman

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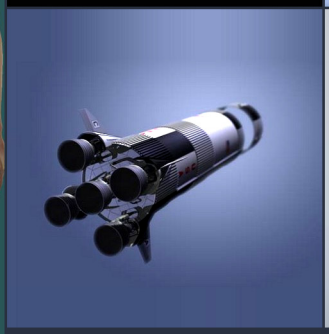


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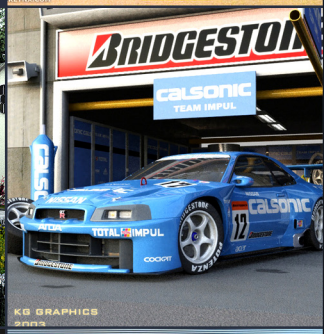



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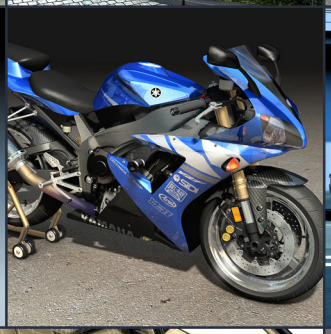
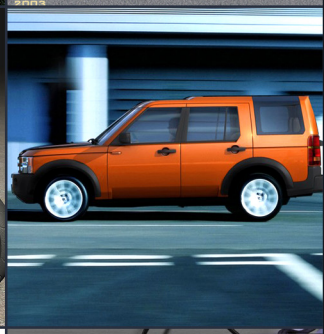
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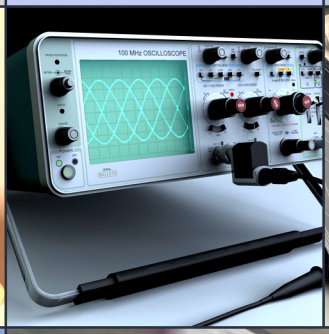




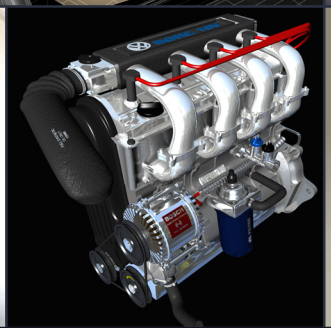









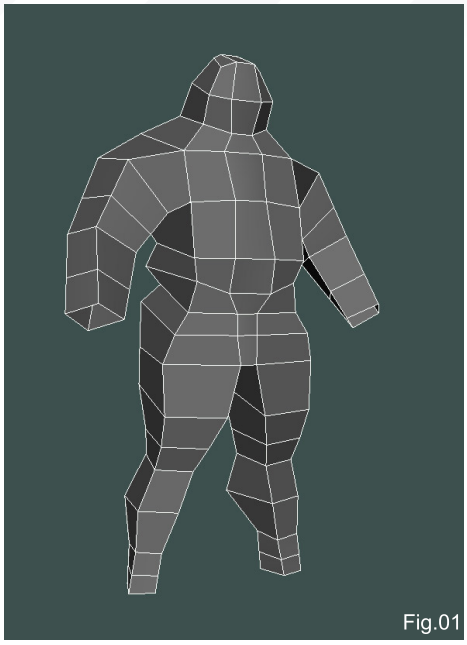


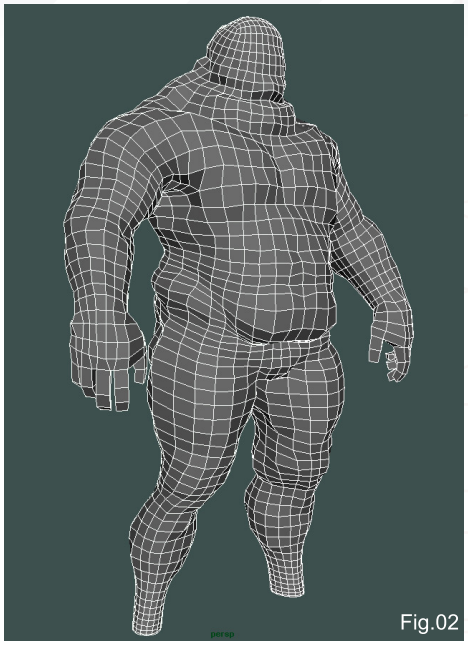
"...I WANTED TO CREATE A CHARACTER THAT WOULD BE PLEASING TO ME: TALL, HEAVY, STRONG, BUT NOT HANDSOME..."
After the success of winning the third "Dominance War" competition, Dimitry Parkin shows us what went into creating "Imrod" in this "Dominance War Making Of" ...
IMROD
MAKING OF THE DOMINANCE WAR III WINNER BY DIMITRY PARKIN

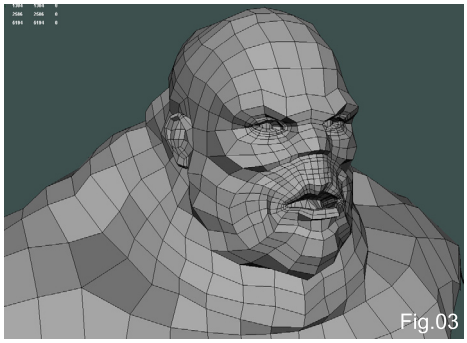
# IMROD

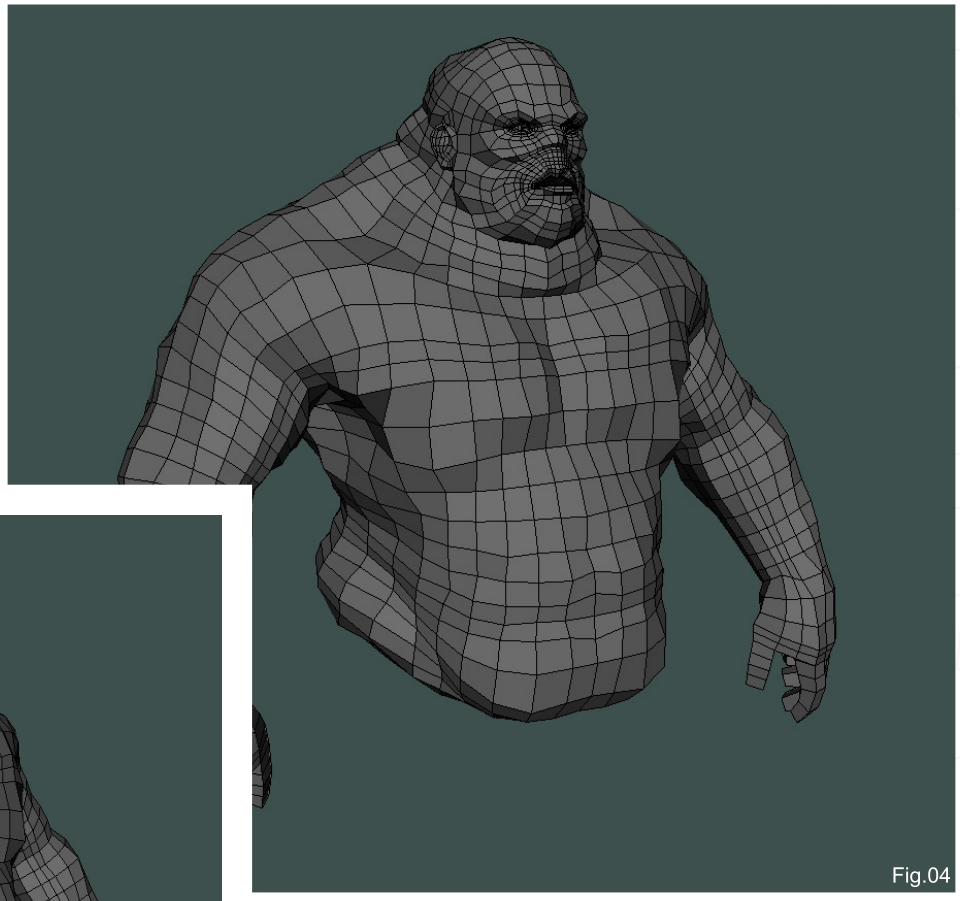
## Introduction

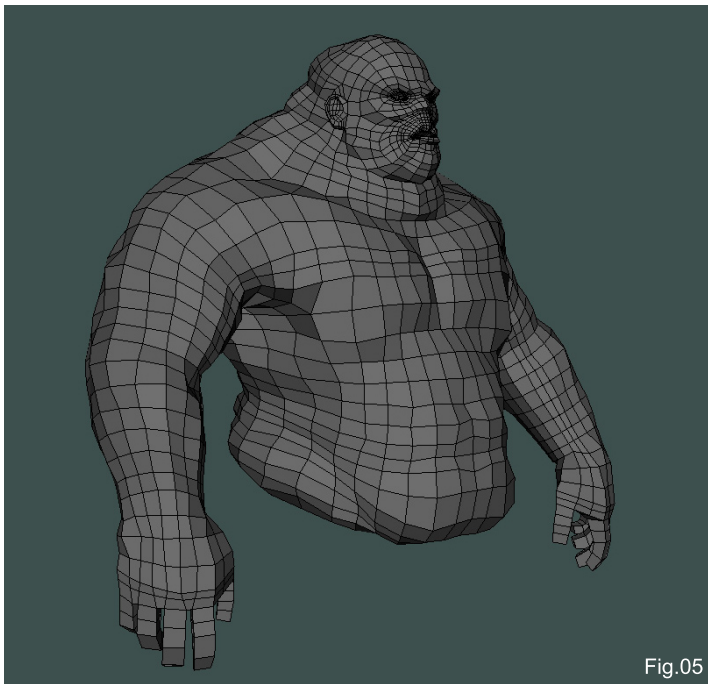
I enjoy creating and experimenting with different forms and styles, and I'm never afraid of an unsuccessful outcome. It is an individual characteristic of my approach: first comes the idea and artistic decision; second – the execution. When I work with characters, I'm not worried about logic and I'm also not interested in why his pants are made of iron or how he pulls them down; I simply keep my form expressive and in silhouette. This way I can check it easily: I set the silhouette to black, and make sure that it looks detailed from the different sides. The best examples of this are Batman, Frankenstein, and even the Ninja Turtles. I always try to follow this rule in my work.


Fig.01


Fig.02


Fig.03


Fig.04


Fig.05

## Concept

When I decided to take part in Dominance War III, my concept for "Imrod" – Giant Berserker – came to me at once. I wanted to create a character that would be pleasing to me: tall, heavy, strong, but not handsome. I also wanted to give him an air of mystery, as well as a wise manner and an awesome nature. He had to be a Big Bad Giant Demolisher from Hell, of course! I wanted to create my character like this because I knew I could

show a good balance of proportions and a lot of detail in the sculpted model – this is my trump card after all! The making of Imrod began with lots of very simple sketches of a base form, along with some details such as the helmet, shoes and armour, before I moved on to the modelling.

## Modelling

I made a primitive base mesh in Maya and imported it into ZBrush (**Fig.01**). There, after repeating a few steps, I sketched a base form which was then sent back to Maya for the attachment of the hands, face and shoes (**Fig.02, Fig.03, Fig.04** and **Fig.05**). The body was cut into two parts at the point of the belt, because I only have 2GB RAM and after 4-5 subdivision levels the model stood very heavily and made it uncomfortable for future work to be done. After collecting of all the components, I sent all the meshes into ZBrush in order to complete the high poly model.

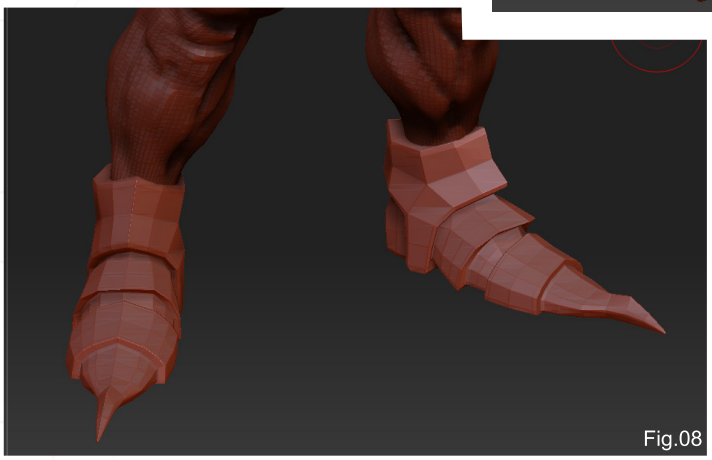
My technique of high poly modelling is very easy for me, because I started as a 2D artist in early childhood. I make all my elements in ZBrush – organic models, textiles/clothing and hard surfaces – because I "feel" it, almost like a "3D paint"!

## The Torso

So, I opened the first part of the Imrod torso and started to adjust his proportion and weight. I then drew the base anatomy: muscles and fat. The next step was adding a peculiarity to his anatomy – the little horns under his skin around his neck, and skin decoration on the arms and chest. A lot of time was spent on his face; I wanted it to look like a giant face, with a rubbery texture and a massive skull structure. My task was also to create his face with the typical look of a warrior after winning a huge battle (**Fig.06**).


Fig.06


Fig.07


Fig.08

Towards the end, I worked with the fabrication of the skin. I used the "MalletFast" brush with a self pictured alpha (some kind of oval scales) to paint over his body. The last step was to drop an alpha skin in some places, on the neck and the face (**Fig.07**).


Fig.09

## The Legs

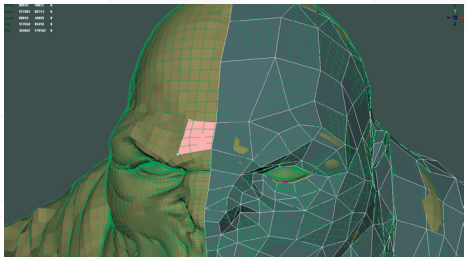
The idea behind the design of the legs was generally based on human anatomy, from which I added some free elements in the line of muscles. To add more defences to the surface, I pulled out short thorns in some places, along with some lines, creating a sharp texture with the help of the “Pinch & Smooth” brushes. The shoes were made in the same way (**Fig.08, Fig.09, Fig.10** and **Fig.11**).


Fig.10


Fig.11

## Low Poly Modelling

After completing the high poly model, it was time for the turn of the low poly one. I went down 4-5 iteration levels and exported the “carcass meshes/middle poly” to Maya. There I built a low poly model over the carcass mesh. I used the “Modify\Make Live” function to create a snapped surface of the carcass, and drew over it with the “Append to Polygon” tool. In that way, I created the low poly model, and all that was left was some final messing around with the geometry (**Fig.12** and **Fig.13**).



For the UV unwrapping, although I modelled it in Maya, I actually baked the normal map in 3ds Max.

## TEXTURING

I used Photoshop for the texturing stage. For the diffuse map I needed to bake the occlusion map, which is a good way to bake a detail from high poly to the diffuse map. I used this map in Overlay mode. I then divided the materials map on the colour, and painted over the different surfaces: dirt, blood, scars and so on.

I dropped a background layer over it – usually a scan of a rusted metal, shabby skin or another rough surface. I wanted to make a burning glow in some places, so I painted it onto separate layers – red and yellow – over the diffuse map. Next I put this layer on a black layer and got a Glow map. When the diffuse map was ready, I made it black and white, and after a little correction used it as a specular map (**Fig.14**).


Fig.13



Fig.14

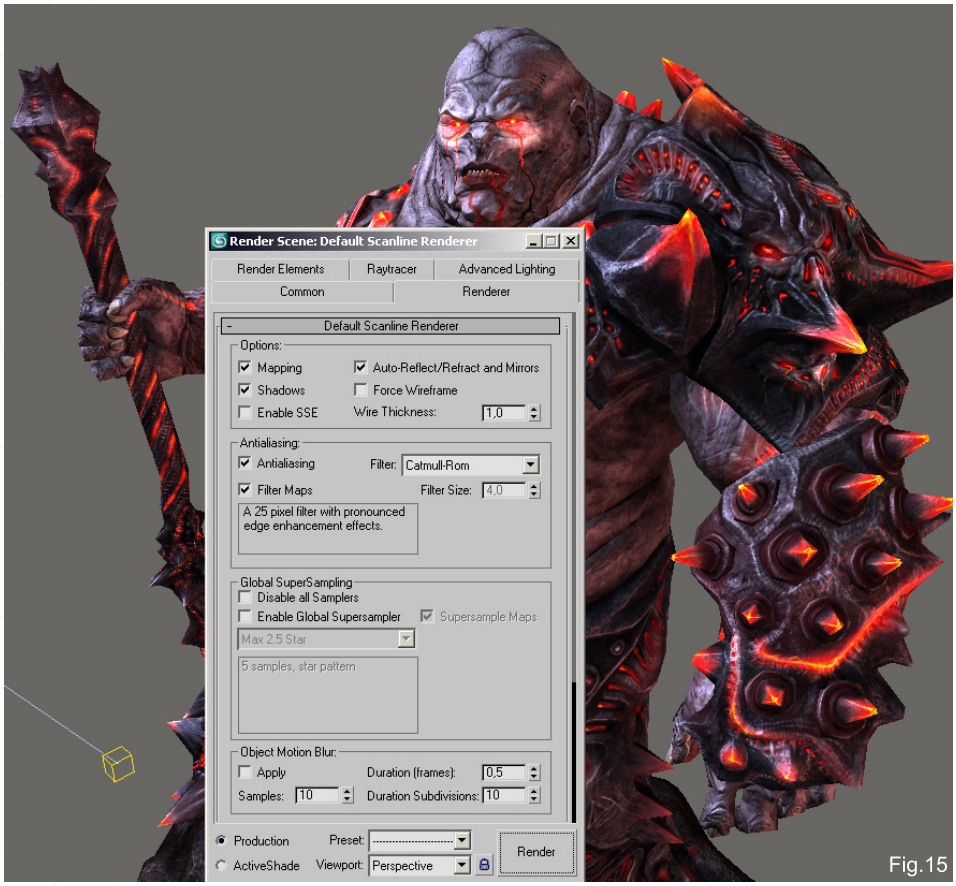
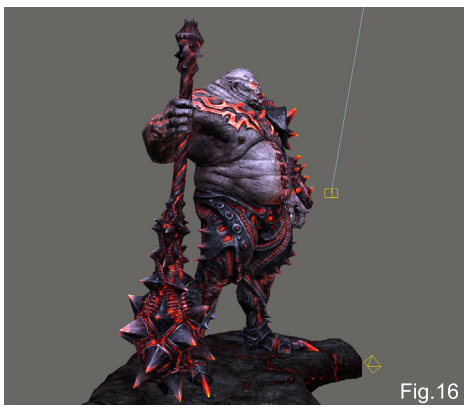


Fig.15


Fig.16

## FINAL

As a final step in the creation of this work, I made a render of model with all maps applied. For the render I used 3ds Max and Max's default renderer with lighting map and "Catmull-Rom" filter (**Fig.15**).


Fig.17

I used two lights: spot (from the top right with cast shadows) and omni (from the bottom left without shadows) (**Fig.16**).

I made a few renders and chose the best. And with this, my work was complete, but it would be great to see him in action! (**Fig.17, Fig.18** and **Fig.19**).



Fig.18



Fig.19



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# The Gallery




This month we feature:

Giraffe

Michal Kwolek

Spel

Tolga Gungor

Mauro Baldissera

Cheong Hoe Yi

Joseph Harford

Malanjo

Fabricio Torres

Hao Ai Qiang




## GHEOS

**Mauro Baldissera**
http://www.maurobaldissera.it
maurobaldissera@gmail.com

## UNTITLED IMAGE

**Tolga Gungor**
tlggungor@yahoo.com





## ARK

**Michal Kwolek**

http://www.kwolek.org/

kreska90@o2.pl

## ARCH-VIS. WORK

**Giraffe**

http://www.giraffe3d.com

giraffe3d@gmail.com



## HULK

**Fabricio Torres**
http://fabriciotorres.wordpress.com/
fabriciotorres@gmx.net






## BUST OF CONSTANZA BONARELLI

**Joseph Harford**
http://www.shinefx.net
josephharford@googlemail.com

# El Niño

**Malanjo**

http://www.malanjo.com

malanjo@gmail.com



## INSPECTOR JIBER

**Spel**
http://users.livejournal.com/spel
speltospel@gmail.com




## GZHOPPER-MAN

**Cheong Hoe Yi**
http://fireantz.we.bs/
fireantz83@hotmail.com



# Story of time 1980

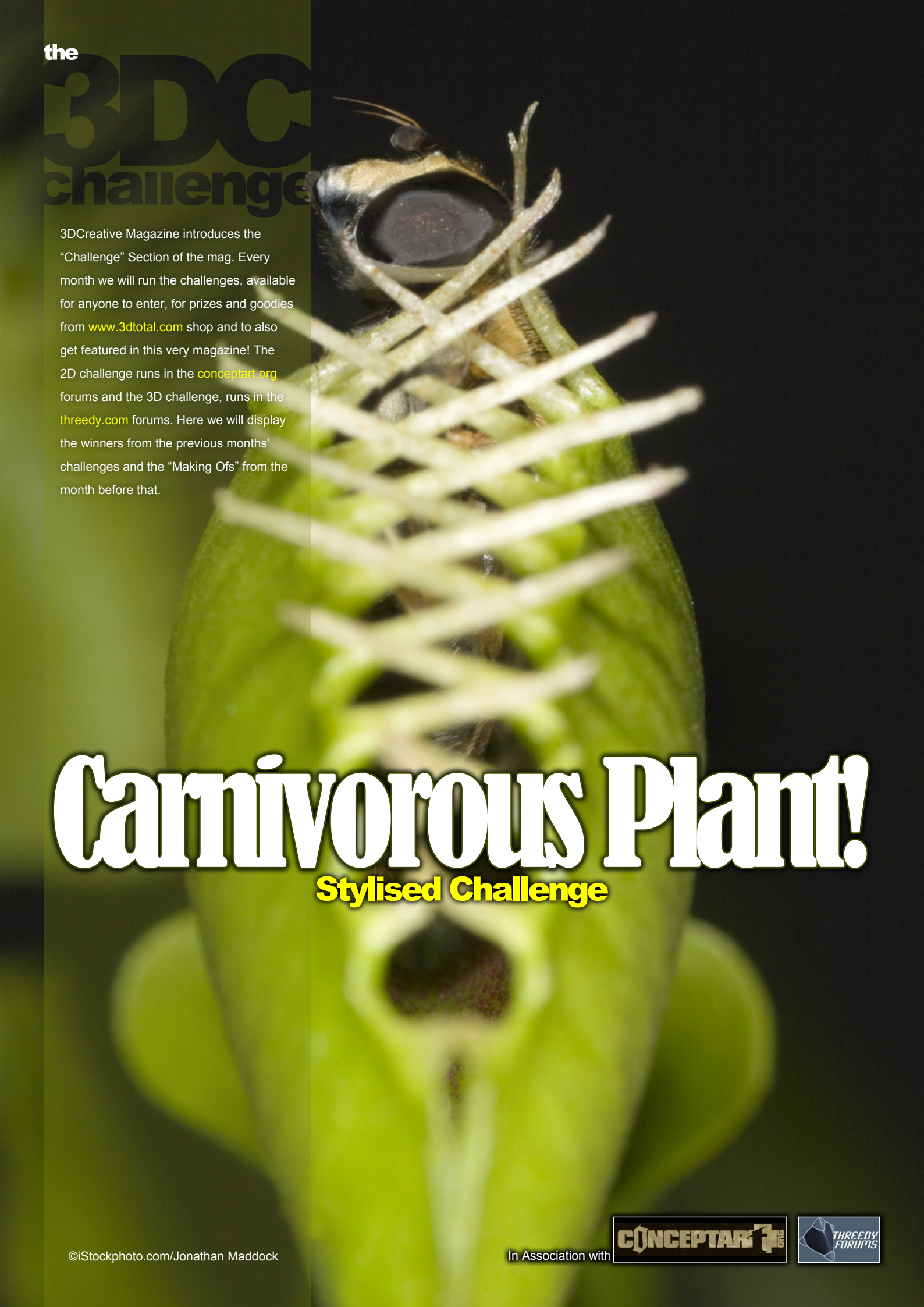
**Hao Ai Qiang**

http://www.sleep-m.com/silentart

metalcraer@hotmail.com







# the 3DC challenge

3DCreative Magazine introduces the "Challenge" Section of the mag. Every month we will run the challenges, available for anyone to enter, for prizes and goodies from www.3dtotal.com shop and to also get featured in this very magazine! The 2D challenge runs in the conceptart.org forums and the 3D challenge, runs in the threedy.com forums. Here we will display the winners from the previous months' challenges and the "Making Ofs" from the month before that.

# Carnivorous Plant!

## Stylised Challenge

©iStockphoto.com/Jonathan Maddock

In Association with CONCEPTART.ORG THREEDY FORUMS

# Stylised Challenge

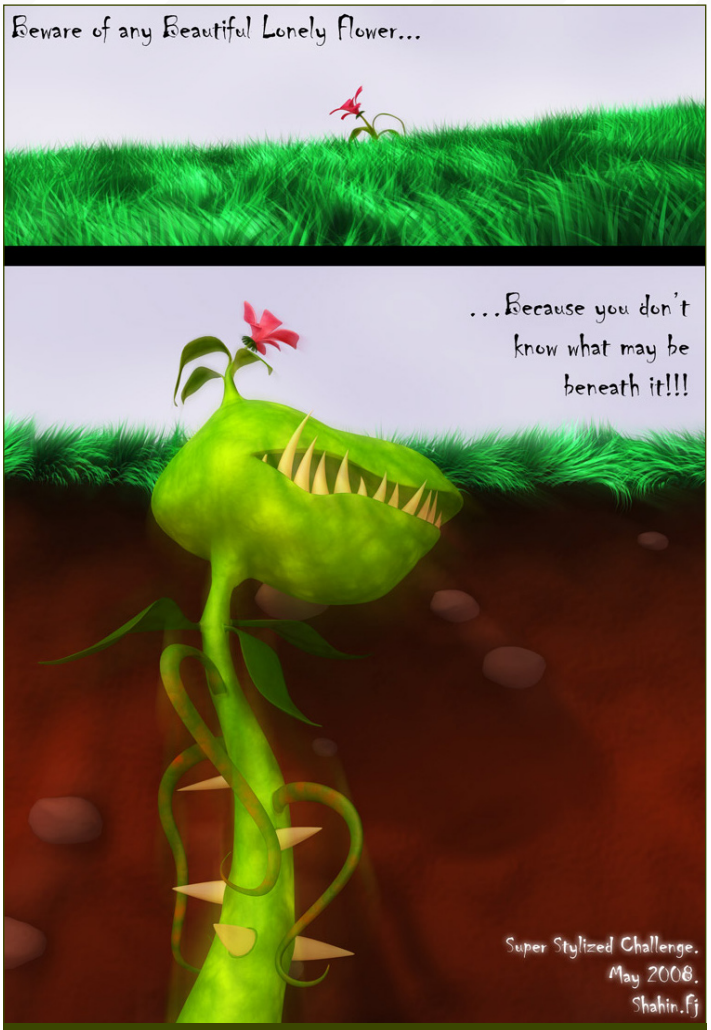
## Carnivorous Plant

## THE CHALLENGE

Welcome to the Stylised Monthly Challenge. Each month we will select a character and post some images in the forum thread as references. All you have to do is to create a 3D image of this character in a stylised/abstract/cartoon style, whilst keeping your entry instantly recognisable. We wanted to publish some content in 3DCreative Magazine on how to create stylised animals and characters, such as you see in the many feature films and cartoon galleries. We thought this regular competition might bring in just the images and "Making Of"s that we need, whilst giving away great prizes and exposure. If it's successful, we will try to boost the prizes up as much as possible! This month's character was 'Carnivorous Plant'; here you can see the top nine entries, as voted for by the public.

## WHAT ARE WE LOOKING FOR?

Funny and humorous entries that break the character down into its most recognisable components. Emphasise these in whichever ways you wish and render your stylised/abstract/cartoon masterpiece. The rules are pretty laid back: please submit 1 x 3D render (minor post work is okay). It's up to you if you want to have a background or if you want include some graphical elements or text on your image. Renders of the 800 pixel dimension sound about right, but the winners will be featured in




7TH: SHAHIN_FJ



6TH: XXXCUBANXXX osdany25@gmail.com




4TH: NOCTURN8 FinalNOCTURN8@hotmail.com




5TH: DADDYDOOM

3DCreative Magazine, so if you can create some higher resolution images too, all the better!

There will be one competition per month, with the deadline being the end of the month (GMT). For a valid entry, just make sure your final image is posted in the main competition thread before the deadline. We require the top three winners to submit "Making Of" overview articles that will be shown on either 3DTotal.com or in 3DCreative Magazine. These need to show the stages of your creation, different elements, and some brief explanation text of why, and how, you did what you did. We will format this into some nice-looking pages to give you some great exposure, and us some quality content.

Each competition will have one main thread, which starts with the brief at the top. All entrants should post all WIPs, give feedback, and generally laugh at the crazy ideas that are emerging each month!

## CHALLENGE THREAD

The entire CARNIVOROUS PLANT! competition can be viewed here.

To view previous and/or current entries, please visit: www.threedy.com



3RD: EYESIGHT
etienne.fraisse@wanadoo.fr



2ND: HA-JASSAR
alhaithamujassar@yahoo.com
http://www.jassarbrush.com



1ST: TONYCLIFTON
thorben7@gmail.com
http://www.thorben.carbonmade.com

Or, for the 2D challenge, please visit: www.conceptart.org

Or contact: lynette@zoopublishing.com

## 2D CHALLENGE

Here are last months top entries from the 2D competition:



1ST LOCITO



1ST TRASHY



2ND GIGSMELLA

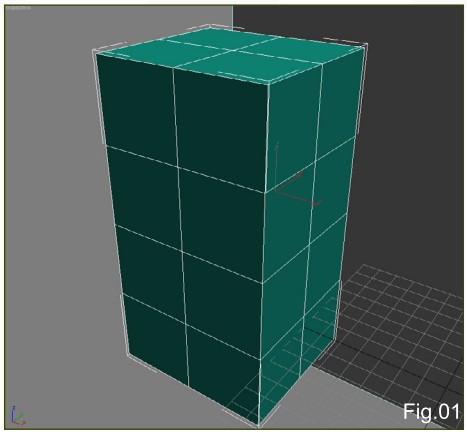


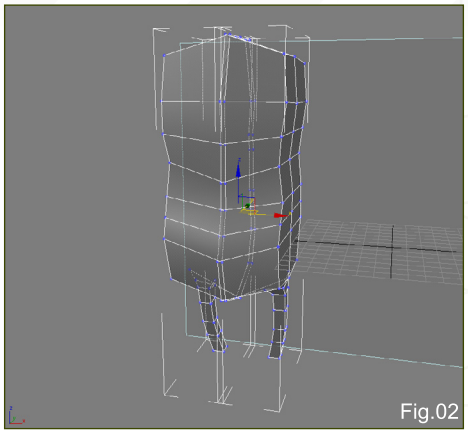
3RD FREAKDESIGN

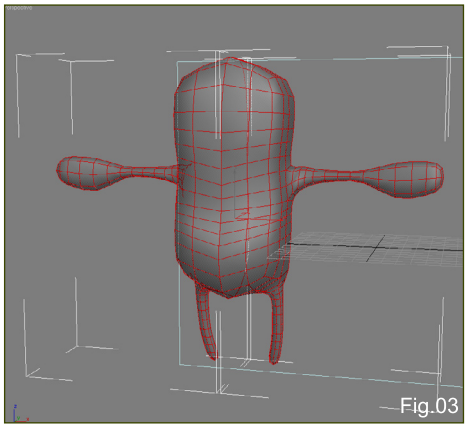


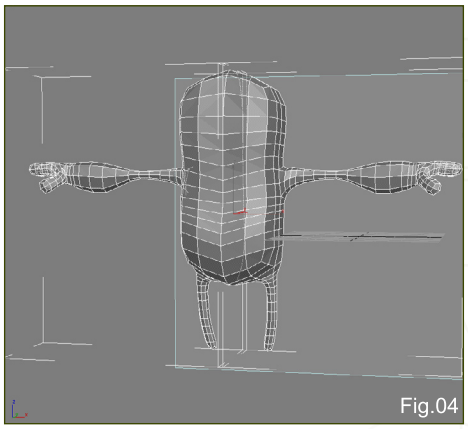
3RD TOMMOY




Fig.01


Fig.02


Fig.03


Fig.04

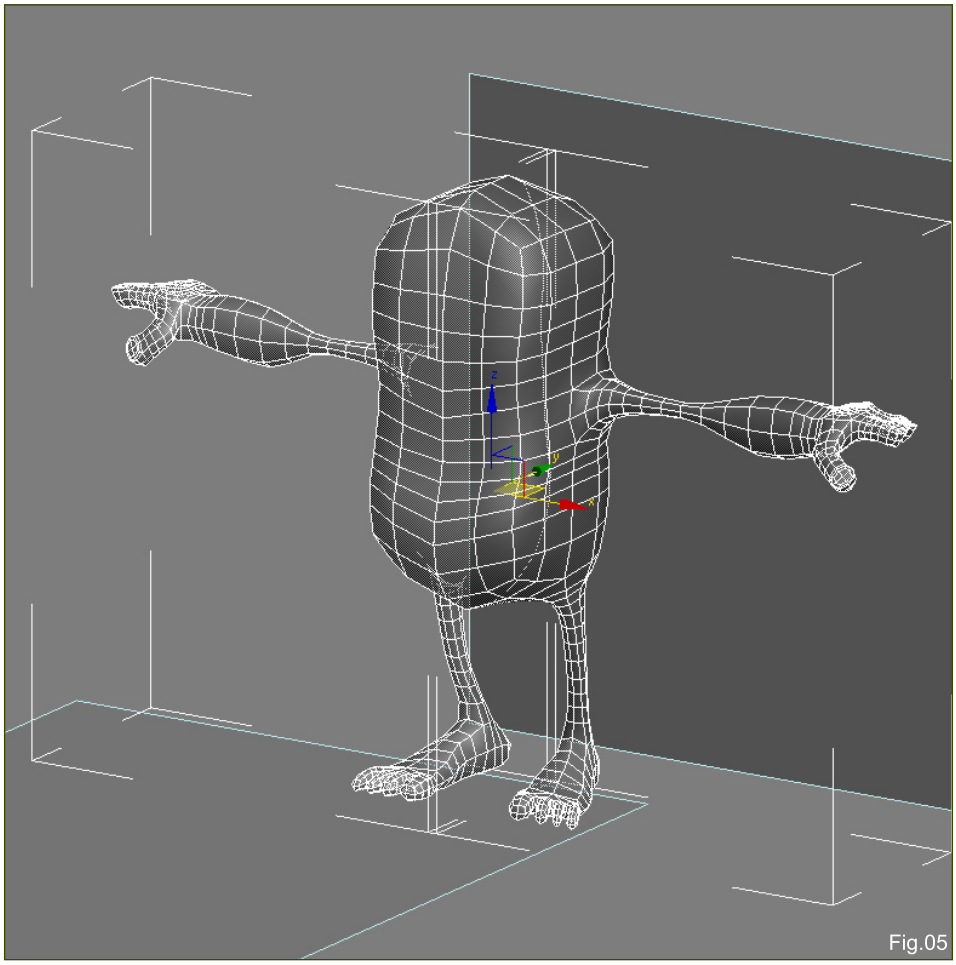
## Making Of's

Here are the "Making Of's" from last month's top three winning entries...

## 2nd Siege

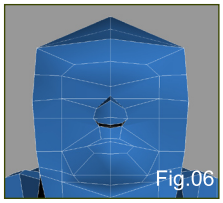
### Introduction

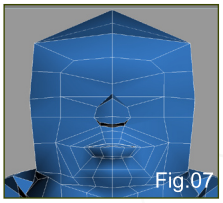
I entered this competition with the idea of creating a character that I could use in multiple situations. Besides him just being a Caveman, I wanted to be able to reuse him in different situations with different looks. So my process started with some sketches, until I was eventually able to draw up a model sheet.

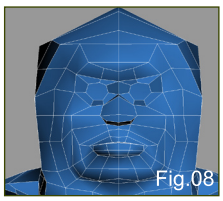

Fig.05

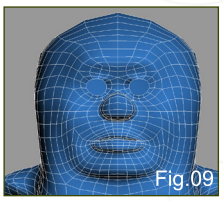
I then went into 3ds Max where I did some simple box modelling work, following my model sheet (**Fig01, Fig.02, Fig.03, Fig.04** and **Fig.05**).

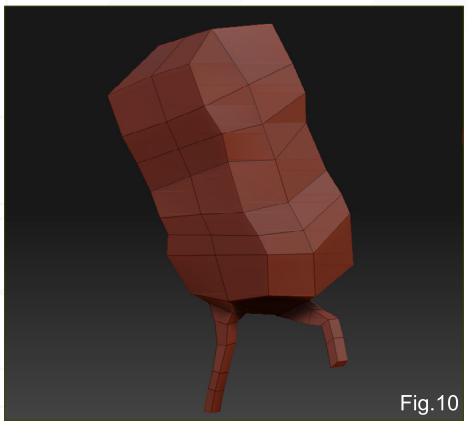
Once the body was complete, it was then time for some detailing of the face. There was nothing too fancy here, as I still struggle with topology. After lots of trial and error, I gave

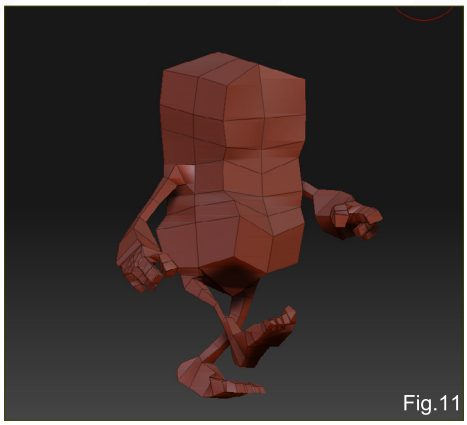

Fig.06

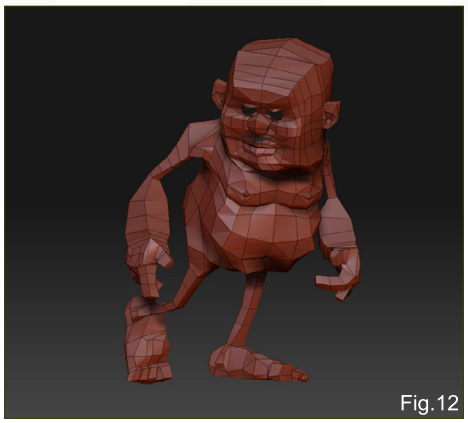

Fig.07


Fig.08


Fig.09

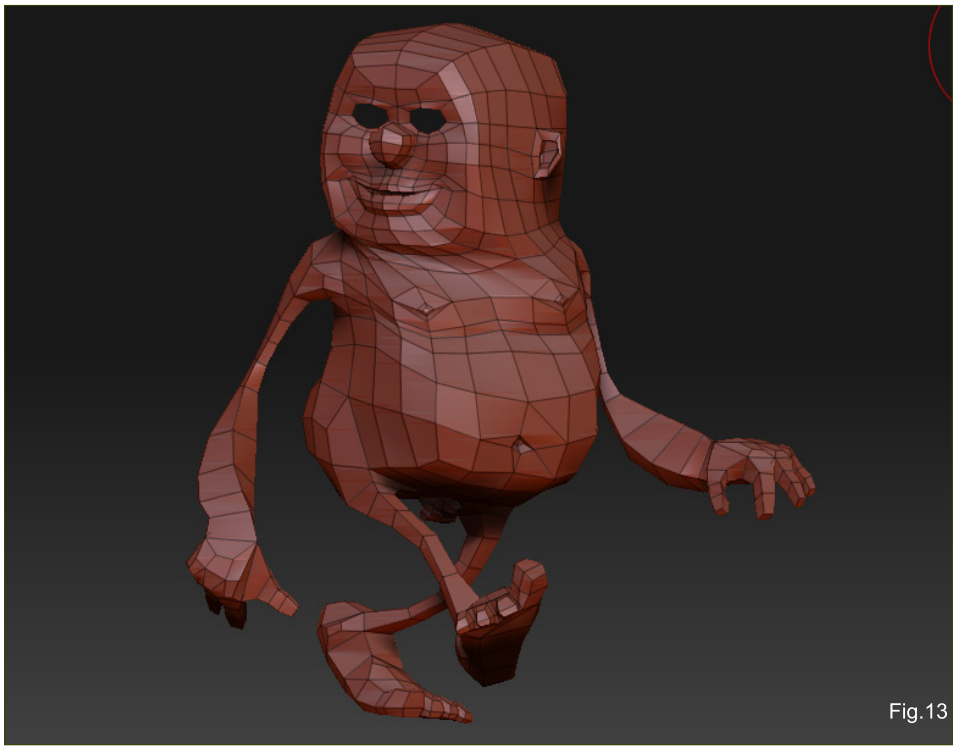

Fig.10


Fig.11


Fig.12

up and left it at this point (**Fig.06, Fig.07** and **Fig.08**). A smooth modifier magically prettied it up to this, though (**Fig.09**).

I then took my model into ZBrush, and after figuring out the "Evolution of Egog", I grabbed the mesh at different stages, from 3ds Max, and exported them as .obj files. In ZBrush I was then able to quickly pose them using the Transpose feature (**Fig.10, Fig.11, Fig.12** and **Fig.13**).


Fig.13

For the hair, I added a Sphere as a subtool. I formed the shape of the hair and beard, and stuffed the rest of the sphere inside the model's head (**Fig.14** and **Fig.15**).

For the clothing I used Mesh Extract, masking an area that I wanted to extract one at a time. I went through lots of trial and error at this stage


Fig.14

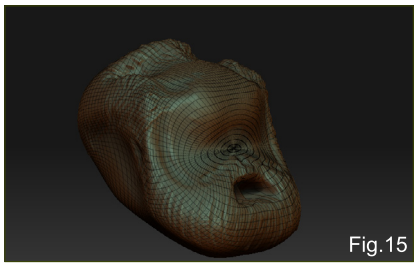

Fig.15


Fig.16


Fig.17


Fig.18

too, but I finally achieved a mesh that I could use for my final entry and win me some votes (**Fig16, Fig.17** and **Fig.18**)!

Time was running very short at this point and so I worked on the details until they were at a level that I thought looked good. I quickly posed him, using the Transpose tool again to bypass any need for a rig (**Fig.19**).


Fig.19

Images of the various stages emerged from primordial ooze on land, which evaporated quickly to the blank background that I ended up with, to simply suggest and present the final concept (**Fig.20**).

## Chris Lubitz

For more work by this artist please visit:
http://www.lumaxart.com
Or contact them at:
mailforsiege@yahoo.com



Fig.20



Picture by Dragos Jieanu.

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# the sculpting challenge

Due to popular demand, a Sculpting Challenge has been introduced in the Threedy Forums, over at 3DTotal.com, which has taken us all by storm! These challenges have gathered interest from far and wide and are resulting in some truly awesome final submissions (80+ entries for the first challenge – an amazing start for such a young competition!). Due to the speed of these competitions we've got a jam-packed feature this month, with the winners from not one, but two of the challenges: The Sculpting Challenge – 002 – "Manimal" and The Sculpting Challenge – 003 – "Super Soldier". We've also got a Making Of from the challenge that started the ball rolling: The Sculpting Challenge – 001 – "Orc's Head", and hopefully there will be many more to come in future months, too!





In Association with THREEDY FORUMS

# Sculpting Challenge

## Manimal & Super Soldier

## So, what's the Sculpting Challenge all about?

The Rules: Entrants can use any software with sculpting tools, such as ZBrush, Mudbox, Blender, Silo, and so on.

1. Each competition lasts two weeks: one week is allocated to creating and submitting the entries and the second week is allocated to judging and voting for the entries.

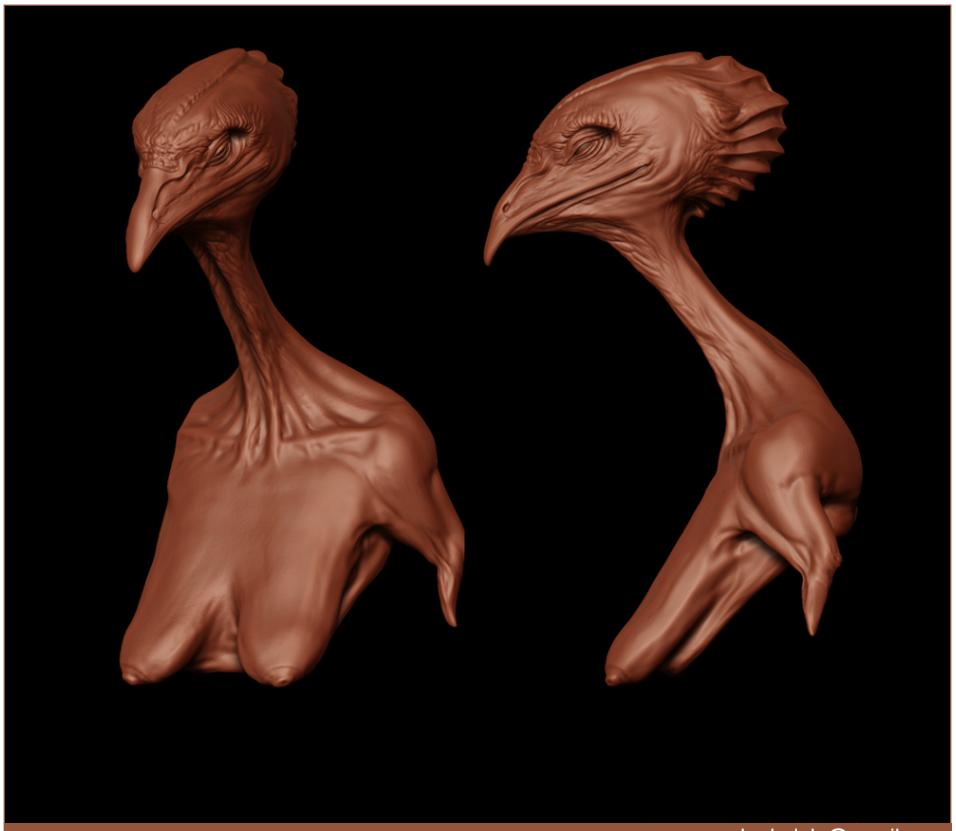
2. The moderators supply a base mesh for each competition from which everyone starts sculpting. This is so everyone gets an equal start and it also helps to keep everyone on topic!

3. There is a time limit for each sculpting challenge: entrants must spend no longer than the allocated time limit, and then post a screen grab of their model. There must be no cheating and the challenge relies on honesty from all!

4. Entrants must not add extra meshes to the base mesh. However, entrants are free to add any accessories or details, as long as they're within the base mesh, to give their characters personality.



5TH: PAP87 johnpapa_87@hotmail.com



4TH: INTERVAIN magda.dadela@gmail.com http://www.mdadela.com



3RD: MAFIDA mafida@neostrada.pl

5. There is no rendering, texturing, lighting or rigging – it's all about the high-res sculpt! What we are looking for is the quality of sculpts that can be produced "under pressure". If entries are not complete, they can still be posted as long as they're recognisable as per the brief and on topic!

6. For each final entry, a screen grab from the entrant's software must be posted with their finished work in it. These images must be uploaded to the Threedy servers (using the

"manage attachments" button on the forum reply page). Images should not be linked to external images files. Any images that are larger than the maximum size, or posts containing links to external images (other than for reference materials), will be removed and the poster disqualified.

7. Entrants can post multiple entries, but only one final entry for each competition is allowed!

8. Entrants are asked not to create their own WIP threads. Everyone should simply post all WIP screen grabs in the main forum thread, and final entries in the special Submissions thread.

These rules apply to everybody taking part and there are no exceptions!

## What Can I Win?

The winner can choose any two 3DTotal products from the 3DTotal webshop. Please note that a few products in the shop are not made by 3DTotal, but 12-month magazine subscriptions are fine! Please see the individual challenge details or contact a forum moderator for further details about prizes.




2ND: SPACEBOY412

anon7kipple@gmail.com
http://spaceboy412.cgsociety.org/gallery/

## So What Were the Requirements of the 2nd Challenge?

Subject – "Manimal"

Time Limit – 3 hours

The Brief:

"We've all been there; it's a normal night at the cinema, the movie's in full swing and you're just about to reach your arm around the neck of your main squeeze, when all of a sudden you transform into an anthropomorphic vision of frenzied destruction and kill everyone in the room. In this comp we want you to take the base mesh provided and sculpt your visualisation of such a transformation, in any way or fashion you deem fit. Realistic, fantasy, stylised, anything goes. Pick whatever animal you like too; wolf, horse, puma, slender loris...



1ST: GRASSETTI

"We've also given you the option of having eyes this time around, there's a separate .obj file provided or you can add eyes yourself as sub-tools (or software equivalent) but you have to pick one or the other of these options, not both. Manimals assemble!"

## AND WHAT ABOUT THE 3RD CHALLENGE?

Subject – "Super Soldier"

Time Limit – 3 hours

The Brief:

"This time it's about super soldiers, commandos, siege veterans, muscle-packed battle-worn gods of the war zones. The big guys, carrying the big guns. We're interested in how you can convey their personality through no more than a torso, shoulders and head. Show the awesomeness of their experience, maybe sculpt in some added appendages (bionic eyes, iron muscles bulging through the skin, some scars from a lucky bullet that somehow managed to scratch him).

"The super soldier is the guy that tells the rest of the army to take five and watch some fireworks. It's easy to sculpt a mean soldier, but it takes skill to sculpt a super soldier and convey all his traits, personality and experience into the final entry.



5TH: SKULL_MONSTER majid_smiley@hotmail.com



5TH_JHARFORD Josephharford@googlemail.com http://www.shinefx.net



4TH_DALTON_MUNIZ dalton_muniz@yahoo.com.br http://daltonmuniz.wordpress.com/

"As before, we're giving you the option of having eyes; there's a separate .obj file provided or you can add eyes yourself as sub-tools (or software equivalent), but you have to pick one or the other of these options – not both. The race of your character must be human. No aliens or other creatures this time. I'm gonna go pick up my rifle and stimpacks..."

## IS THERE A CHALLENGE AT THE VOTING STAGE NOW?

## SURE IS!

Subject – "Real Life Cartoon"

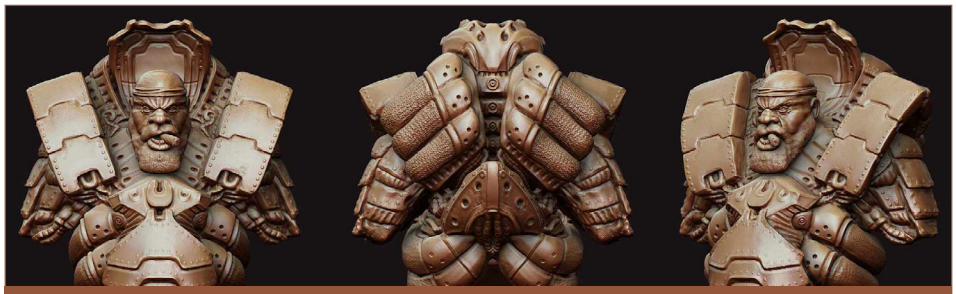
Time limit – 4 hours

"This time it's about cartoons, from The Simpsons, Dungeons & Dragons, Thundercats, Dangermouse, Count Duckula, M.A.S.K, to Disney and The Looney Tunes. There's so many cartoons from our past and present you could make a real-life Daffy Duck, or a hyper-realistic Fred Flintstone, a bulky-winged Venger from D&D, Akira or even a bespectacled Penfold!

"As before, we're giving you the option of having eyes; there's a separate .obj file provided or you can add eyes yourself as sub-tools (or software equivalent), but you have to pick one or the other of these options, not both. It needs to be a pre-existing cartoon, no making your own cartoons please, also no Superheroes or Mechas. Let's see those cartoons come to life!"



3RD_SATHE
nytrex@gmail.com
http://polyvore.cgsociety.org/gallery/



3RD_CRAB PEOPLE



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siamak.roshani@gmail.com
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1ST_EMETH003
emeth003@atlas.cz
http://emeth003.blogspot.com/

## So What do I do if I Want to Join the Next Official Threedy Sculpting Challenge?

It's simple! Head on over to the Threedy forums, **http://forums.3dtotal.com**, sign yourself up with a Threedy forums user account, grab the mesh that's supplied with the challenge and go subdivide yourself silly! We'll see you in the forums and perhaps even in next month's issue of 3DCreative! Good luck!

## MAKING OF - "ORC'S HEAD"

Here is a brief overview from Emeth003, the second place winner of the first ever Official Threedy Speed Sculpting Challenge…

## 2ND: EMETH003

For the inspiration behind my final entry, I was inspired by the Orcs from World of Warcraft…

## STEP 01:

I started work by importing the base mesh into ZBrush. I then split the mesh with the GRPSPLIT function into two subtools – teeth and head (it is much more comfortable to sculpt the teeth and head separately!) I subdivided the meshes to subdiv. 1, and with the Move brush I started work on the proportion of my orc's head. At this stage I tried to find a good flow of polygons (good topology) – it was important for the detailing stages that came next (**Fig.01**).


Fig.01

## STEP 02:

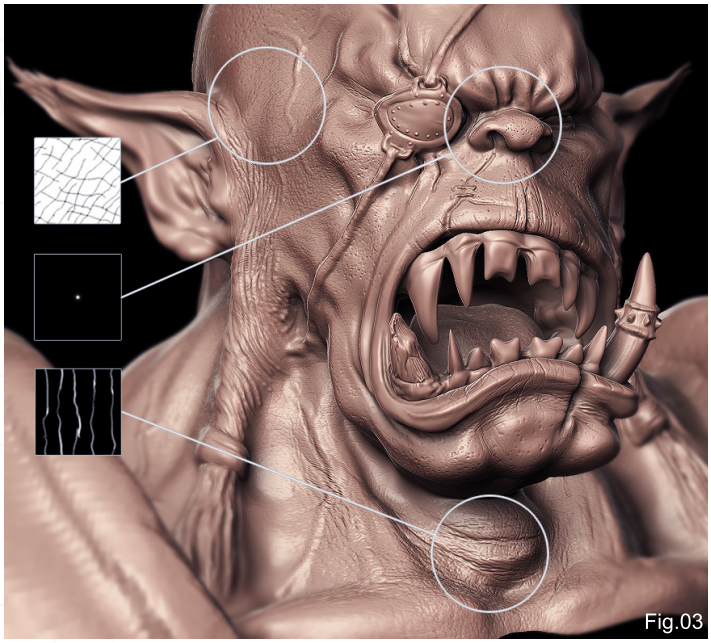
After throwing out the basic proportion and subdividing the mesh to subdiv. 2, I added some details and made some corrections to the proportions (**Fig.02a**).

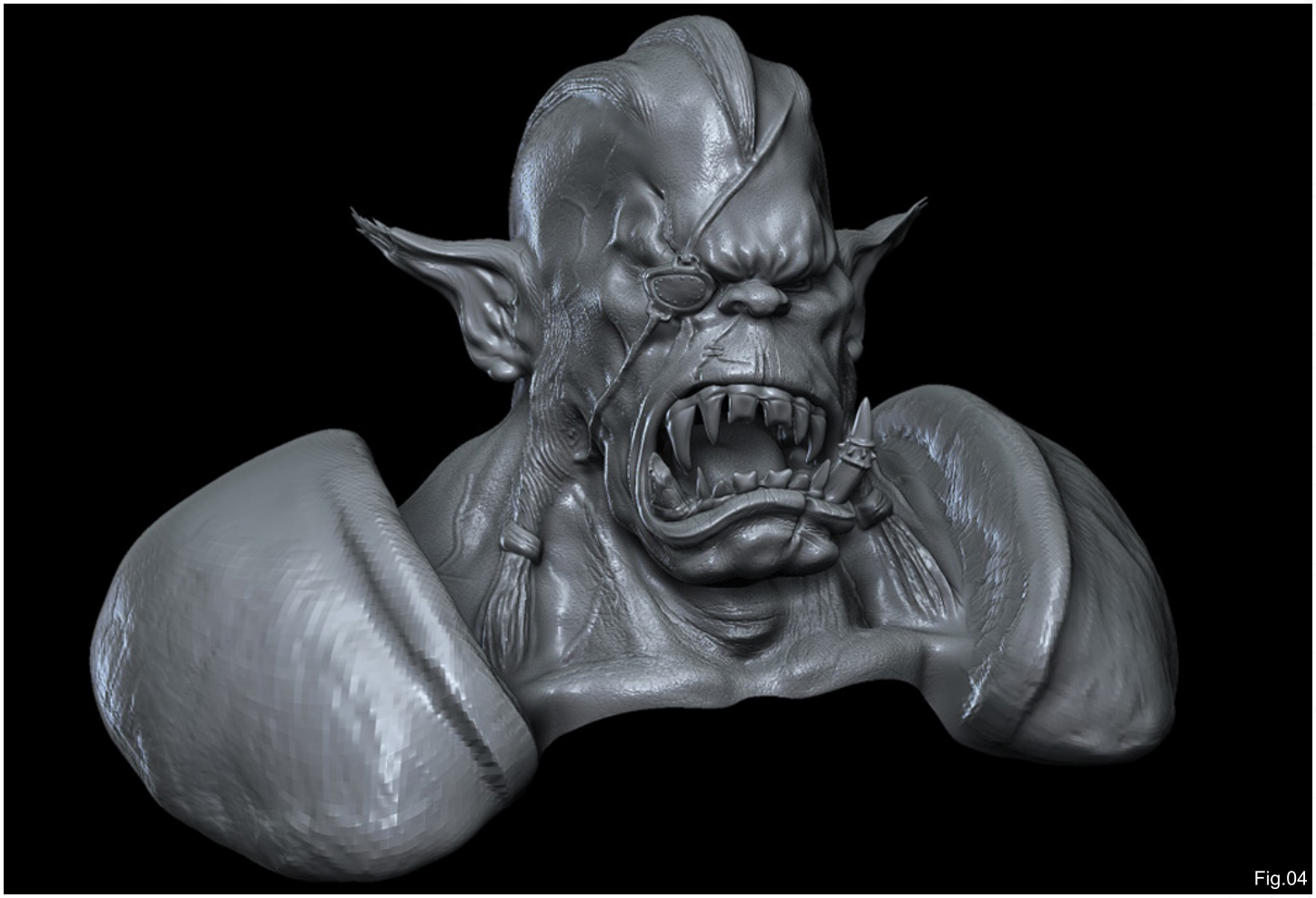

Fig.02a

## STEP 03:

At this stage, I worked with the Standard, Inflat, Pinch and Move brushes. I subdivided the mesh to subdiv. 4 and added all the details, using the Transpose tool to create the final pose. At this point, I decided to add a shoulder strap to make him an individual-looking Orc, but I didn't account for this in the topology and so I didn't have enough polygons for the detailed work on it (now you see why it is so important to have good topology!). Unfortunately, I didn't have the time to repair the situation, and so I had to go on to the next stage (**Fig.02b**).


Fig.02b


Fig.03


Fig.04

## Step 04:

I subdivided the mesh to subdiv. 6 (about 1.5 million polygons) and I started working on the fine details (wrinkles and pores). This was a very quick process – it only took me about 5-10 minutes (**Fig.03**)!


Fig.05

For the wrinkles I used the Stitch brush, Standard ZBrush Alpha 58 (focal shift about 95 – this is important for making single wrinkles), and for the pores I used the Standard brush with Spray Stroke and Standard ZBrush Alpha 40. For the skin I used the Standard brush with Spray Stroke and Standard ZBrush Alpha 56.

## Step 05:

Here are the final images. Enjoy (**Fig.04**)!

## Other Entries

For this challenge, I also created another two entries, as can be seen here. I would like to thank the Threedy and 3DTotal staff for these challenges, and I recommend them for anyone who wants to improve their skills (**Fig.05**).

## Pavel Cizek

For more work by this artist please visit:
http://emeth003.blogspot.com/
Or contact them at:
emeth003@atlas.cz

# Bugatti Veyron

## car modelling series

Over the course of the next seven months we shall be running an in depth tutorial on how to go about creating the amazing Bugatti Veyron. The series will cover an in depth and comprehensive guide to modelling the car from start to finish and will focus on the key techniques and stages invloved in building the chassis as well as details such as the windows, lights, vents, petrol caps and engine parts etc. We will then move on to creating the wheels including tyres and hubcaps before going on to building and incorporating an interior, namely the dashboard and seating. The series will proceed with a section on creating and applying materials for the numerous parts of the car such as the paintwork, chrome, rubber and glass before concluding with a tutorial devoted to setting the scene for a finished render. This final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.


3DSMax Version
Page 143

Cinema4D Version
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Lightwave Versions
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Maya Version
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Softimage XSi Version
Page 189


This Month :

PART 7 - LIGHTING SETUP & RENDERING

# nPower CAD Translators for Maya

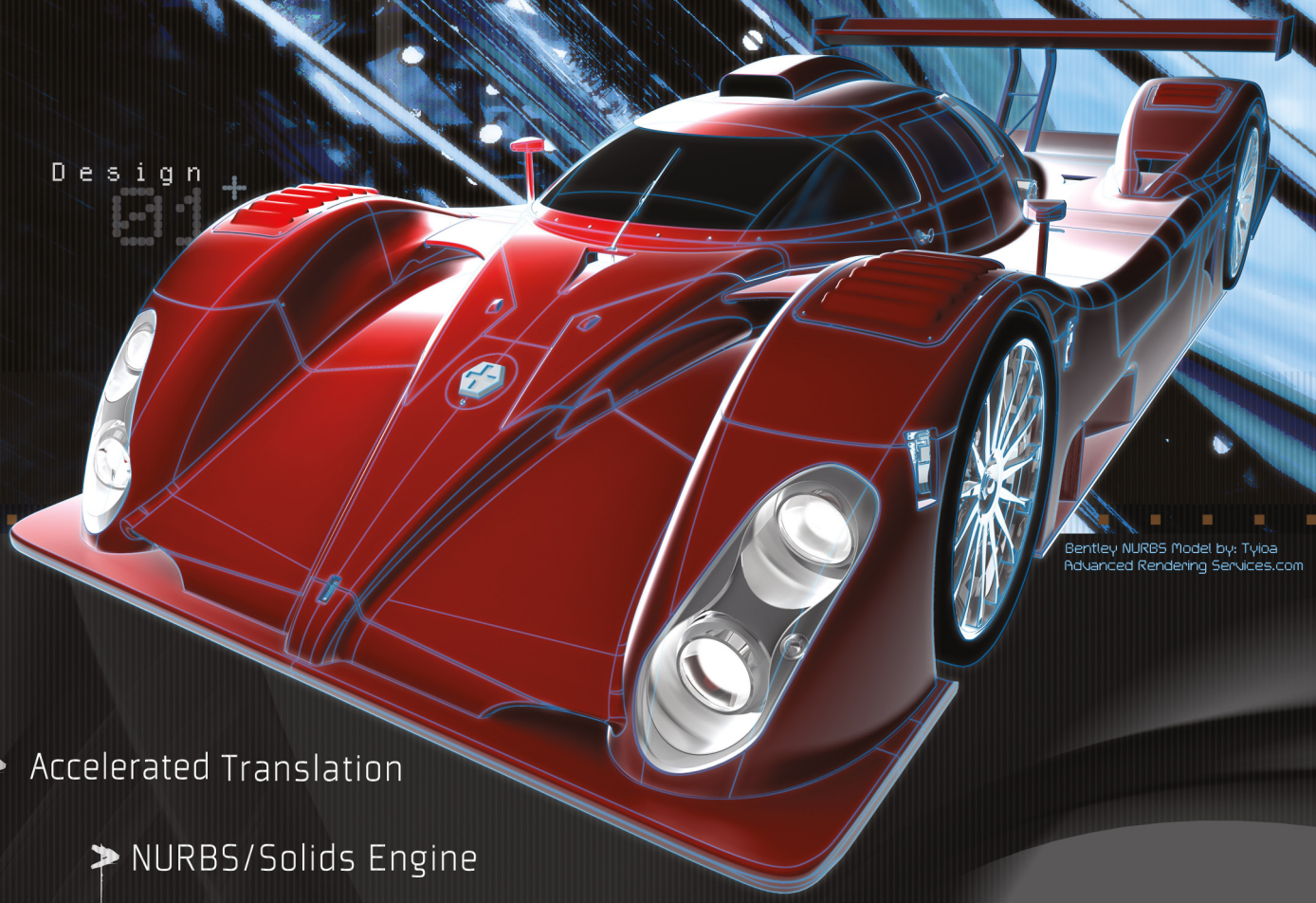
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"Pay particular attention to areas with a lot of detail, such as the eyelids; if you feel that a fold, crease or wrinkle needs to be added then go ahead and do it, using the same techniques that we've used up to this point in the series."

For all of you out there who have heard of, but are unfamiliar with, ZBrush, then this new seven-part tutorial series by Wayne Robson is perfect for you! This total Beginner's Guide to ZBrush is an excellent starting point to get you stuck into the world of ZBrush-ing.

This month Wayne brings us Part Six – enjoy!!

# BEGINNER'S GUIDE

## TO ZBRUSH PART 6 BY WAYNE ROBSON

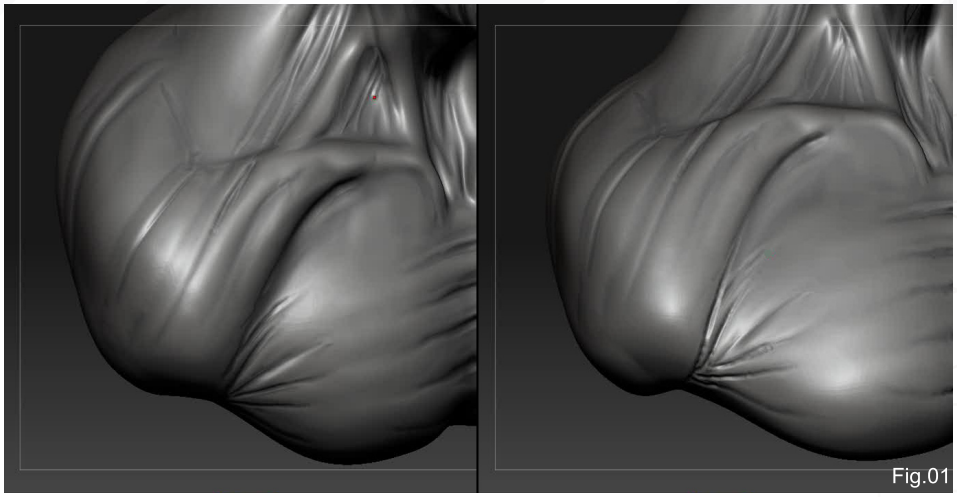
# BEGINNER'S GUIDE TO ZBRUSH PART 6

## Created In:

ZBrush

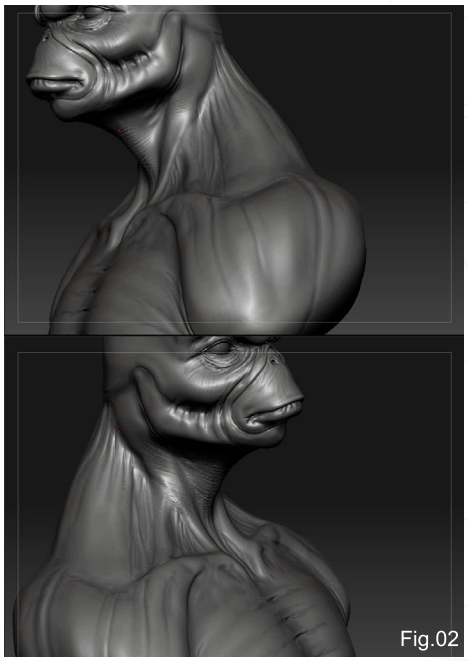
## Introduction

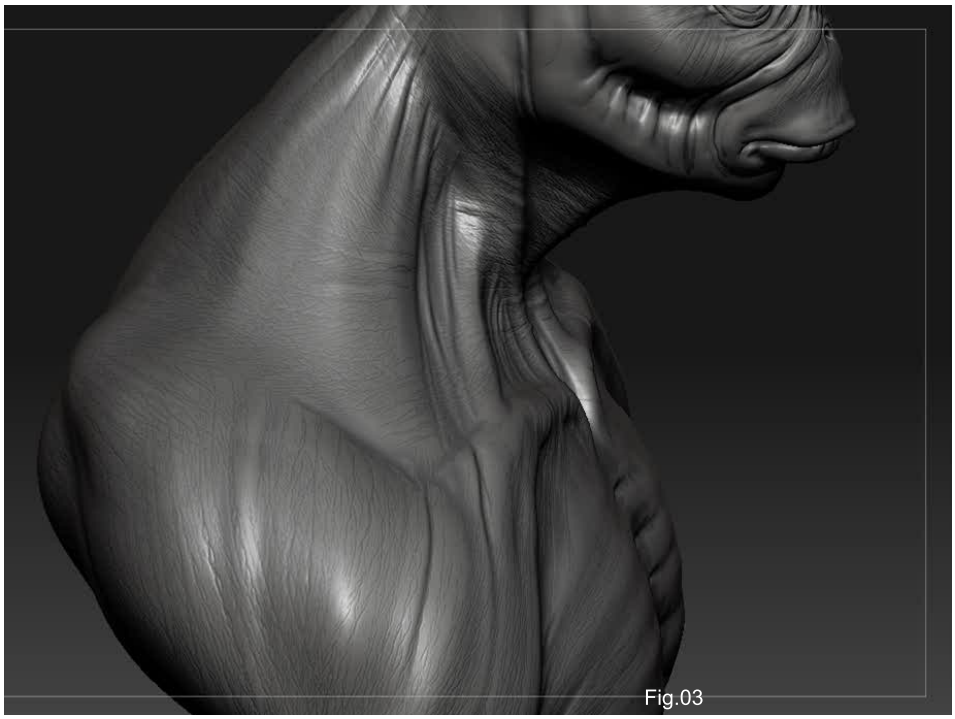
In the previous articles in this series we have gone from a very simple base mesh generated from ZSpheres, to the stage where we now need to start adding some fine detail. Although this takes the most time by far, for the most part it is very repetitive. I'm not a big believer in simply dragging out alpha with detail already in it all over the model, as this does not give you the required amount of control. It can also end up giving us a very "samey" look. So to help further your ZBrush skill set, we are going to add the skin detailing by hand in this article. This is by far the most rewarding way to do it, and gives the added benefit of letting us add the detail that we want (rather than the detailing that we may be "stuck with" from a set of alphas) (**Fig.01**).


Fig.01

## Tidying Up

Before we start the skin detailing in earnest, I'd like you to go over all of your medium resolution forms and make sure that they are tightened. Be sure to sharpen them up and make sure that they look correct to your eye before continuing with this tutorial. It's a lot easier to do this now than to come back later (although not impossible). So please make sure that you are happy with the direction that your model is taking, and that you feel you have gone as far as you can in the time that you have allowed so far. Pay particular attention to areas with a lot of detail, such as the eyelids; if you feel that a fold, crease or wrinkle needs to be added then go ahead and do it, using the same techniques that we've used up to this point in the series. (**Fig.02**)


Fig.02

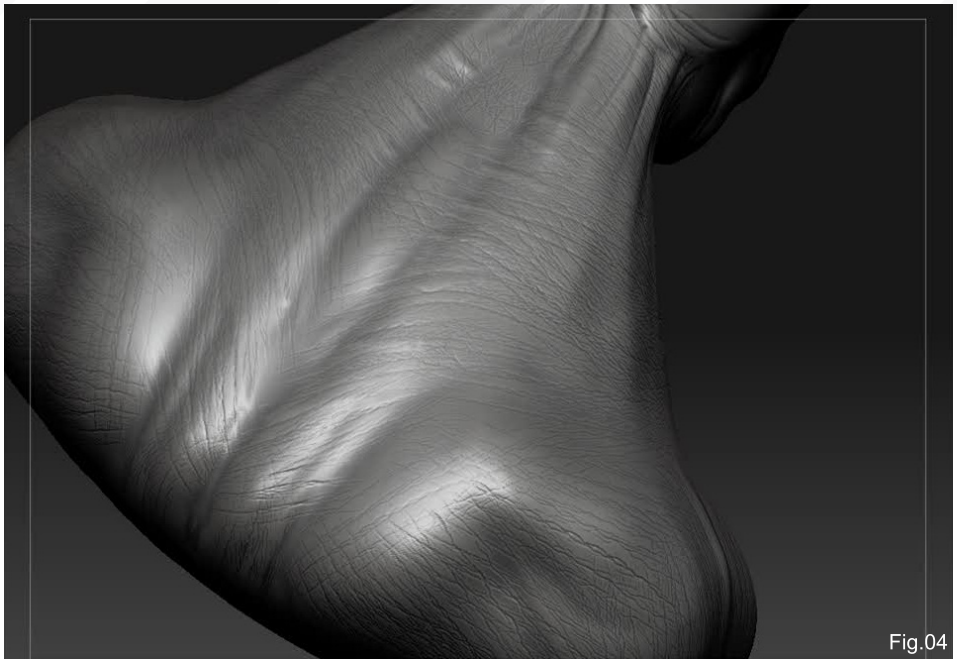

Fig.03

Using the Displace brush, with the freehand stroke type selected, add in some finer wrinkles between the eyebrow in the forehead area and under the eye bags, as shown. This is your final chance to get things as you want them before moving onto the final stages of detailing. (In the last article in the series we'll then pose our model and set it up for rendering!)

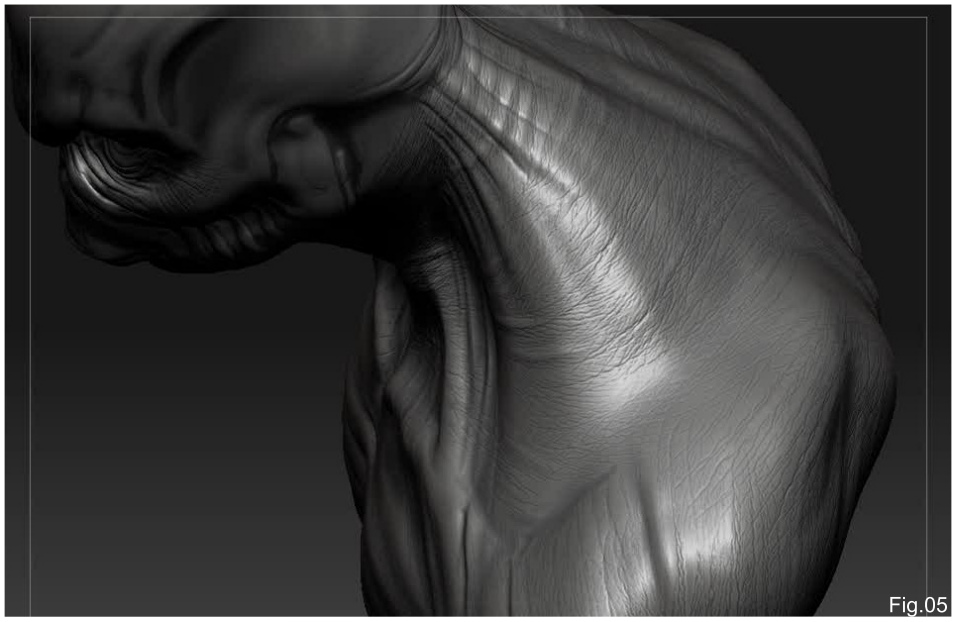
## Detail Pass 1

Select your Inflate brush with ZAdd set to a ZIntensity of 10, alpha 58 active and the freehand stroke type. We are going to use this

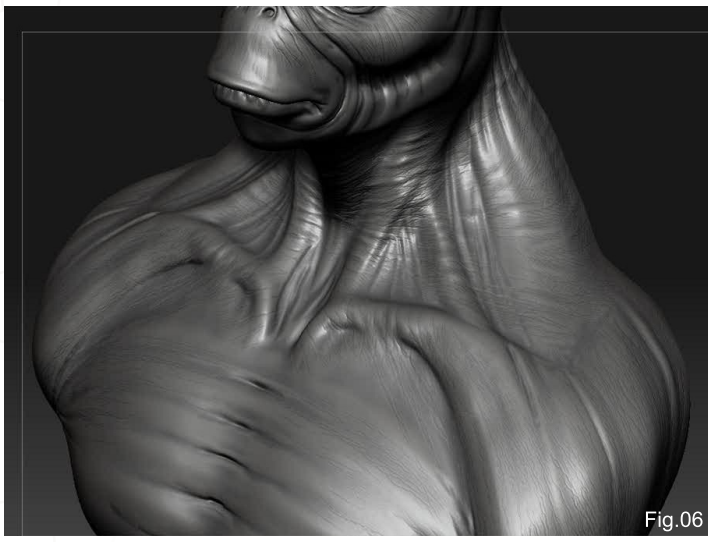
brush to add our first pass at the skin detail. I find it best to add high frequency skin detailing in a number of passes, as this allows me to create highly complex skin effects easily by mixing simple default ZBrush alphas together (it also shows that custom alphas aren't a requirement to add this sort of detailing as it can be done using ZBrush "out of the box") (**Fig.03**).


Fig.04

Our technique for this first pass at the skin detail will be to drag across our model to create a sort of "cross-hatching" effect. My approach is to do a stroke from one angle and then, starting from a similar place, drag out another stroke with maybe a 5-15 degree difference. A light hand is needed to do this; it gives a wonderfully good effect very easily and provides us with a fantastic base detail to work with (**Fig.04**).


Fig.05

So start with the mouth and cheek area and drag some lines out as shown - although don't do the cross-hatching just yet. It is important to make these lines go with the flow of the skin, and remember that wrinkles most often go against the grain of the muscle flow. A good example of this are the horizontal lines on your forehead; while the muscles flow up towards the scalp, the wrinkles on your brow go horizontally. Try to work out where the skin would be pulling and stretching and in which direction it would be travelling. This allows us to make sure that our skin detail always goes with the flow of the skin in a believable way. Do not simply drag some random lines out and hope for the best, as 99% of the time this isn't going to look right. To detail skin of any type right, it's worth putting the effort in to make it believable.


Fig.06

Now add your cross hatching at a slight angle (between 5 and 15 degrees or so seems to look best for me). Once you've done this, the skin in that area shouldn't look as shiny and boring as it did a moment ago. But, rather importantly, the detail is still flat. There's no life to it at all because real skin isn't uniform in nature, nor does it have all wrinkles of the same depth. It varies and it's that randomness that helps to give it a sense of realism. It's that random nature of raised and recessed areas of varying depths that we need to capture in any high frequency skin detailing.
So to do this, change the alpha on your Inflate brush to alpha 35 and turn

the ZIntensity of your ZAdd to 13 or so. To add a little sense of life into the skin detail we've just added, use your Inflate brush to add mass, of varying depths, between the wrinkles that we've carved in. Take you time with this and keep a steady hand; concentrate on each stroke and area on its own. This not only helps to stop you from getting bored as you detail the whole model, but also reminds you mentally of the importance of this step. After doing this, select your Slash1 brush and lightly carve in some very, very fine wrinkles - again between these inflated areas. This helps to tighten the detail up a bit as we go. This technique is one that we'll continue to use over time to cover the entire model for our first detail pass.


Fig.07

Use your Inflate brush now to add a sense of stretching skin running from the back of the cranium towards the top of the back and shoulders. As you will have guessed by now, digital sculpting isn't just modelling something and adding detail, but rather a process of continual correction and refinement. If you feel you can improve an area, do it! If you feel it needs to be further tightened up, then again, go and do it! That's what digital sculpting (and traditional sculpting) is all about – this search for the elusive "perfection" (**Fig.05**).

Up until now we've kept the clavicle very visible to act as a reference point, but now, using our Clay brush and Inflate brush, we can get the pectoral muscles to run into it a bit better. Keep smoothing and stepping down the subdivision levels if you need to. This will suddenly help to pull the design together a whole lot more. Again, go in and tighten the skin folds that run from under the deltoid to keep all the detail in synch with each other. We are aiming for the model to have detail of the same density all over, with a few spots having tighter detail. To add more detail to the neck, use your Displace brush and draw out a few lines running towards the deltoid and clavicle (**Fig.06**).

Now work over the entire model and tighten up every line and medium resolution detail. This is actually easier that it sounds; it's just a matter of taking areas that have become washed-out-looking and sharpening them a little. Due to the length of this article I can't cover every single line, although the free video released in the next article in the series covering the whole workflow will help you if you find you get stuck!



Fig.08

Using the cross-hatching technique again, start covering the entire model, beginning with the throat area and making sure that the detail you are adding is in scale with the area you are detailing. The biggest problem many newcomers to digital sculpting have is that the fine detail they add at this stage is all the same size. They make the wrinkles, which should be finer in areas such as the covers of the eyes, end up the same size as larger areas, such as the neck. So try to keep the scale of your detail consistent with the size of the feature that you are working on. This is another way to assure that you produce believable-looking, high frequency skin details (**Fig.06**).


Fig.09

After you have covered the entire torso with this cross-hatching effect, it's time to go in with your Inflate brush again. Start to inflate and add mass between these wrinkles - being careful not make each one identical. This is going to take you a bit of time, but the final effect is worth it and it's also great practice to get used to the feel of the brushes in ZBrush. We will go back over these again to add mass to the very small wrinkles once the model has been posed in the next article, so for the moment don't go into too much fine detail with your Inflate brush (**Fig.07**).

## Detail Pass 2

This is where we add the important second layer of skin detail to really help the model to look better. So take your Displace brush, with the DragRect stroke type and alpha 22 selected, and start by dragging a couple of areas out on the brows. The ZIntensity of our ZAdd is set to 11 for this. Now start to spread this detail back (making it smaller as you do so) towards the back of the head (**Fig.08**).

Turn the ZIntensity down to 4 and drag some larger areas across each deltoid, as shown. Then continue to add this detail all over the back of the torso and back of the neck (if you find you lose some definition after this, feel free to add it back in again).

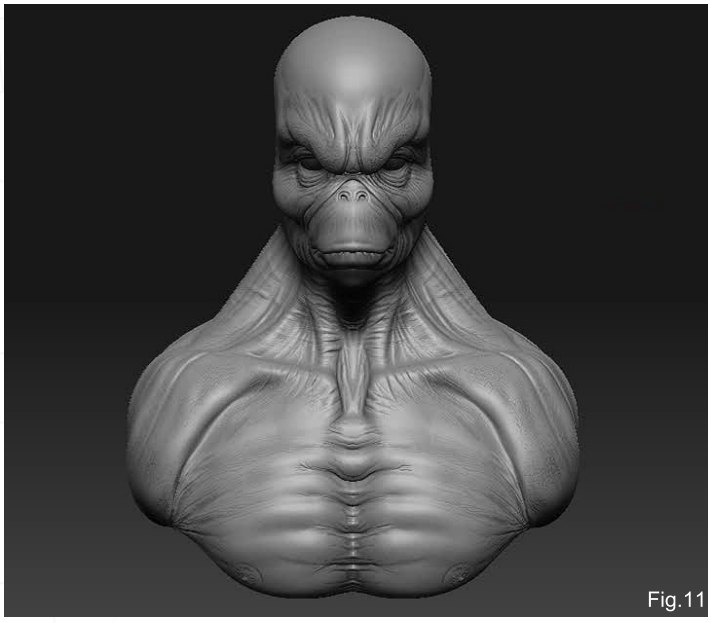

Fig.11


Fig.10

Now use your Slash1 brush to tighten areas up again, especially on the front of the torso. I know this can get repetitive, but it's important not to leave the tightening stage out after each set of detailing, otherwise the mode will end up looking washed out and the details and forms "muddy". Finish off the pectorals by going back over with your Inflate brush and the "lines" alphas from before, and drawing some very fine (almost invisible) details on them (**Fig.09**).

Once you've used these techniques all over the model and taken it to a level with which you're happy, we can call this part of the modelling done. In the next article (and the last in this series) we'll pose our model and then correct the anatomy to better fit the pose before rendering it out. Remember to keep practicing what you've learned and try to apply it to your own models (**Fig.10**).

If you want to try another style of skin detailing for high frequency skin details, take a look at my site (www.dashdotslash.net) and you'll find a two-part video on a different type of detailing that you can do. It's approached in the same two-layer way, but with a totally different skin texture. See you all next time (**Fig.11**)!

## Wayne Robson

For more from this artist visit:

www.dashdotslash.net

Or contact:

wayne@dashdotslash.net

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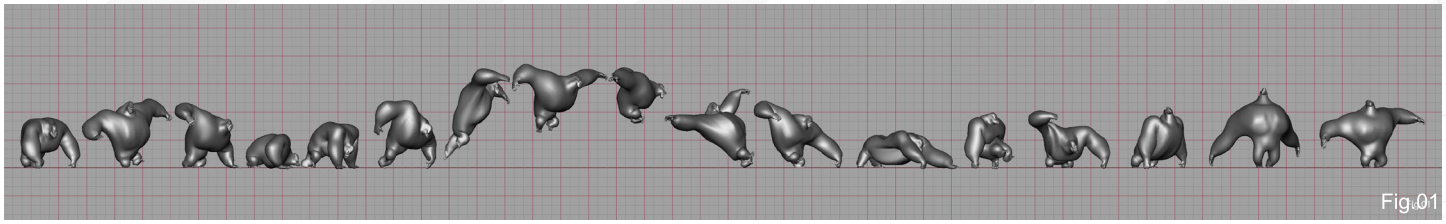
"You should only let spontaneity and improvisation guide you when everything you need for the shot is already in your head!"

# Animation



## General Tips and Techniques: Part Three

This is a tutorial about the general approach to an animation shot, and the factors you should bear in mind when creating 3D animation for a film production. Enjoy!


Fig.01

# Animation
## general tips and techniques

## Introduction

There are basically two existing and extremely different ways of animating: “Straight Ahead” and “Pose-To-Pose”. Both workflows are well-established in the industry and have been greatly improved since their first definition by the nine old men from Disney in around 1940. Still, no-one uses either one or the other, but instead creates a useful combination of both to best fit his own workflow.

I will start by explaining both of them separately, in detail, and then talk about how you can combine both workflows in order to get the maximum out of your actions and achieve physical correctness (**Fig.01**).

## “Straight Ahead”

This is generally a very intuitive and fluid way to animate. Here you don’t actually plan your shot from beginning to end with key poses, breakdowns or anticipations. Instead, you more or less start with the first frame and work your way “straight ahead”, from one key to the breakdown and over to the next key pose, until you reach the end of your shot.

**Fig.02, Fig.03, Fig.04** and **Fig.05** clearly show this “straight ahead” process; how you can go from the “Keypose”, over an “Anticipation”, and into a squashing “Breakdown”. After a “Push Off” pose and a “Stretch” you can go into the extreme jump pose. A contact pose leads into a squash, and over several breakdowns you arrive at the final keypose.

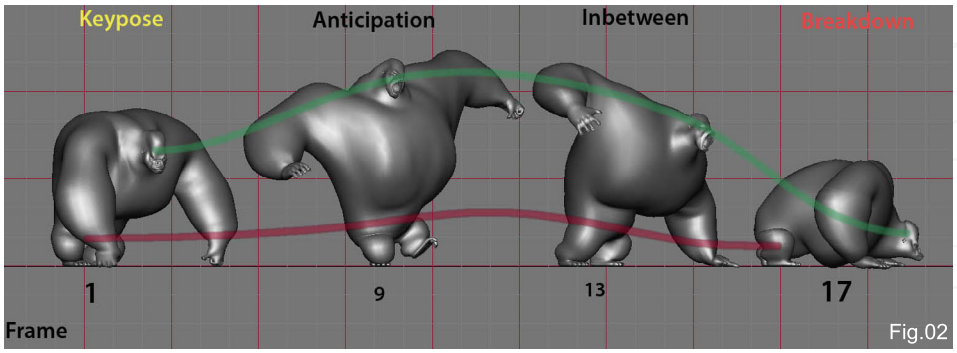


Fig.02

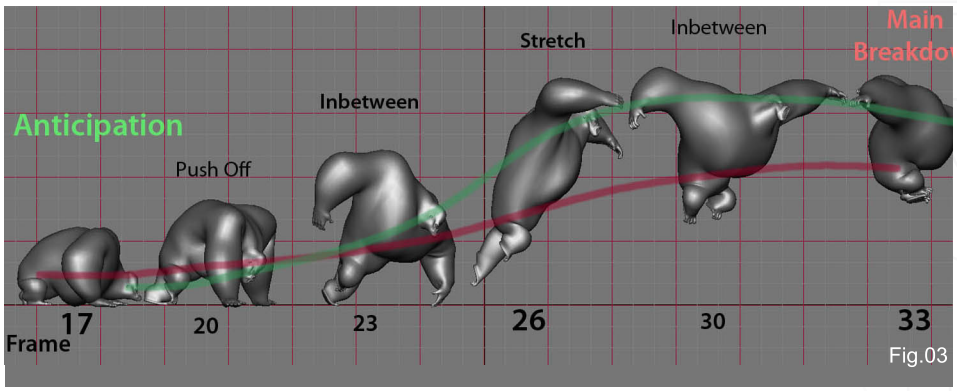


Fig.03

With this process, it’s your spontaneity and improvisation as you go along that can lead to a very original and entertaining shot. You can achieve a natural flow and produce an animation that integrates itself into the flow of the story – by which I mean that the timing and rhythm of the animation matches the story-rhythm, rather than standing as itself as an animated movement.

But be careful: you should only let spontaneity and improvisation guide you when everything you need for the shot is already in your head! For example, when animating a neutral walk cycle with a heavy creature you should already know that one step will not be between 8 to 12 frames, but rather between 16 and 32 frames. And when, for example, you’re animating a small and nervous character, a surprised reaction can already look convincing in just four frames! Let your intuition and feeling guide you to a good, rhythmic pattern of poses and to original acting ideas, with the important guidelines of the overall story in mind. Great originality, natural rhythm and entertaining timing, with the most life and dynamic, come from this way of working.

So “straight ahead” means you don’t block out your shot, but that you go from one pose to the next in a detailed manner. As easy-going as it may sound, there are also a few traps that you should be aware of. There is no way to create an animatic by using the “straight ahead” method (a rough 3D version of the movie, where every shot has just the characters moving in 3-4 keys to indicate what happens). Because of this, it is impossible to structure a story and work out its dramatic build-up! Also, you have no early results to discuss with the director and you have less opportunity to try different versions of the same shot. This means less research and

development to find the best solution.

One can quickly start to lose connection with the overall structure of the shot. By getting caught up in detailed overlapping or weight too soon, you give away control over the whole structure of the shot and its integration into the story's sequence. Therefore the build-up of entertainment, or the development of a character, doesn't progress or enhance the shot – which is the most important thing in every shot. Entertainment and progress bring development, and therefore reason, to your animation.

You can easily miss important turns in the story; climaxes where a particular thing has to happen (e.g. minimal/broad acting); a certain movement or emotion; the essence of a joke or even a stiff hold. As a result, the director is likely to feel a big loss of influence over his shot and the whole sequence.

It's also quite easy to end up with a lot of necessary cleanup work in the curves, with many untidy intersections between the character's limbs or his environment, which will show up in the lighting process before rendering.

"Straight ahead" animation is clearly the more advanced technique of the two, but basically requires that all your references and your tools are already in your head. Dramatic structure, natural locomotion and weight (Timing), human and animal-psychology (Acting) and composition should flow, as well as the necessary software tools.

## "Pose-to-Pose"

This process generally means working from the "outside to the inside" of a shot. First of all, you only create key poses where you want a story-beat, or where you want an extreme pose (**Fig.06**). Second, you take care of the breakdowns, contacts and anticipations (**Fig.07a and Fig.07b**). And last but not least, you look at

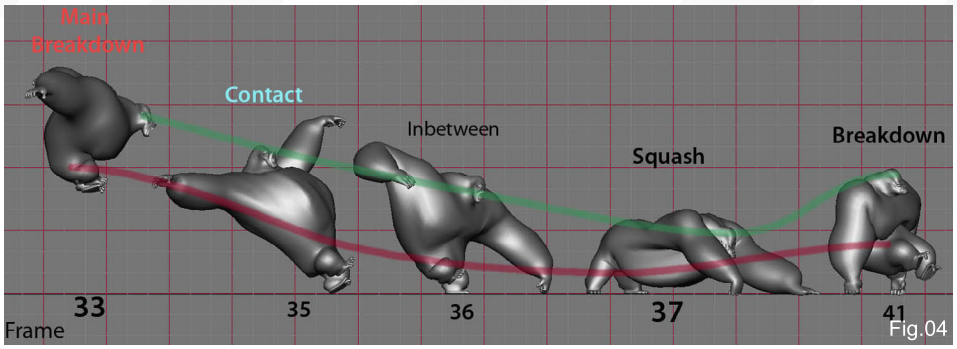


Fig.04

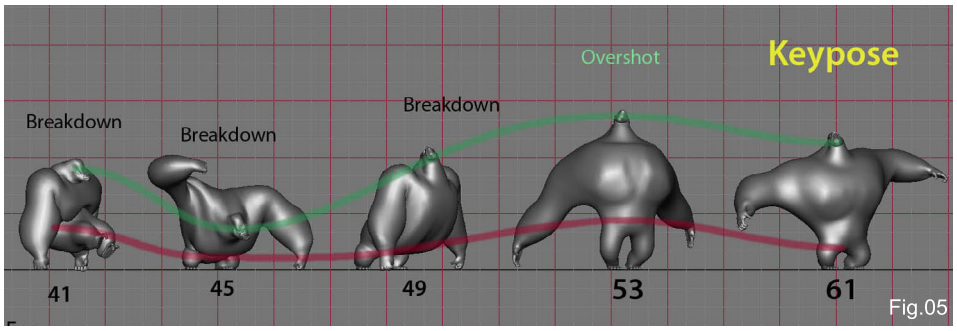


Fig.05

the "in-betweens" (**Fig.08**).

You concentrate most on the key poses and spend much more time refining them, working out a good line-of-action, finding balance or off-balance, searching for a good silhouette, and playing with the strong shapes of the character design. After that you can concentrate on the basic timing and rhythm of the shot, with only a few of these main key poses. This makes it really quick and intuitive, and also keeps the shot simple and clear.

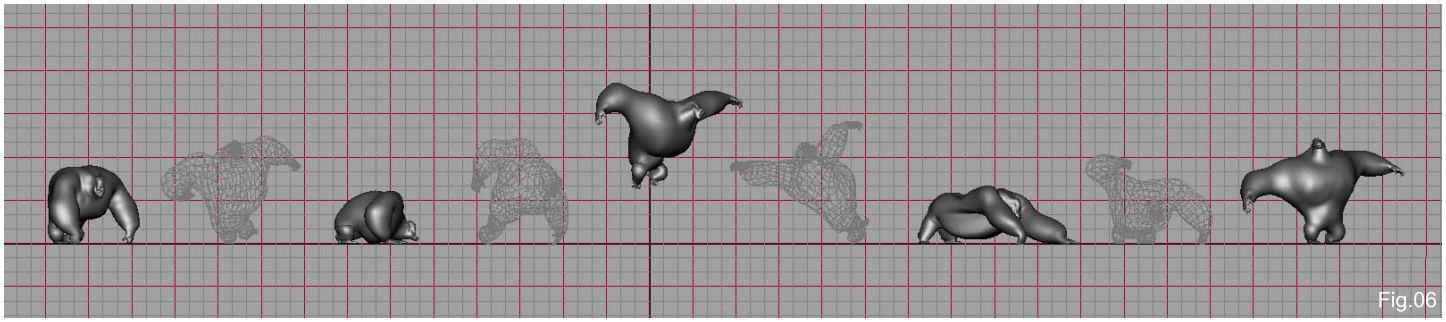
And voila – there you have an animatic! That's why, at this stage in a real production, it pays to work in a "pose-to-pose" style. You can create lots of different block-versions of a shot and therefore find the most entertaining and interesting solution. You also have a basis for first discussions with the director! This way you can deal with the creative problems, but also with technical problems (for example, intersections in the character or between him and his environment).

Productions are getting more and more complex all the time; meaning that cloth, simulated muscle-deformation, hair and fur are intensively used with characters and creatures nowadays. This also brings many restrictions and traps to be aware of, from the earliest stage. So working "pose-to-pose", you actually have the control to make sure the cloth has enough space to work properly. The hand is not inside the hair, a leg doesn't stick into the character's belly, and so on and so forth. So thinking about how and where shadows fall can also save you a lot of trouble in a 3D set when it comes to fixing animation for the pipeline.

While control is the big pro when it comes to "pose-to-pose", it can also be a big disadvantage! Unlike with the "straight ahead" method, you have to add many poses afterwards, or adjust timings between body parts here and there to get an interesting flow into the shot, plus realistic movement. Going from pose to pose in an even timing, or in an even movement (arcs plus interesting breakdowns), can look really boring and immediately destroy the illusion of life!

## A Combination of Both

Always think in terms of different passes or layers when approaching a shot. You have to switch from a rough "straight ahead" pass to a more controlled "pose-to-pose" pass, and then back to a "straight-ahead" pass, and so on.


Fig.06

The first one should be a quick, “straight ahead” blocking pass, in 2-4 main beats (poses) through the whole shot. I say “quick” because you shouldn’t care about details, like the fingers or face – just make the idea clear with the body and be generous with frames and space. Don’t let restrictions like geometry-intersections or the camera angle restrict your acting ideas. Just think about the character and his goal.

In a regular length of 50-100 frames, I generally stick with 2-4 main poses. This keeps it simple for the audience because they only see the shot for a few seconds and ZIPPP! – the shot is gone! That way you also have time to do more than one version of a shot and explore the character and his design a little.

This not only applies to a single shot or sequence, but also to a complete movie. Always establish the flow, rhythm, and cut of the story as one whole piece before you start to animate. So when you are assigned a sequence of five shots, block all of them out first and control the rhythm of the cut and the action. When you have decided on one acting idea, and the overall timing and build-up of the shot is established, go in and clean up the poses to make sure they read well and have no intersections.

At this very rough stage I usually work on the facials only for the main key poses. The face is always the most important part of the body, and the eyes are the heart of it, so you should spend at least 40% of your time on the poses and timing of the face. The eyes are where the audience look most in a shot; they always search for them and try to find the character’s personality in them. By “eyes” I mean eyeballs, pupils, eyelids and eyebrows.

At this “First Block” stage you have to have an iron clad control over the composition and the rhythm of the shot. Take a step back from the screen regularly and always look at the shot as if you were to see it for the first time. You have to learn to judge it with the eye of someone without any animation experience, who is expecting entertainment of the most interesting and emotional level possible. Try to look at it with the eyes of a child; a simple and pretty straight forward mind, simple logic and most importantly has total honesty and believability!

Now start to go through the shot in several “straight ahead” passes. Always go through it from the beginning to the end. Work on all corners of the shot at the same time; i.e. all poses, breakdowns, in-betweens and anticipations should have the same finishing degree. Still try to get as much from as few keys as possible, and always focus on the timing of the body, arms and legs. This way you polish every corner of the shot with the same degree and no section becomes too detailed, yet. Stick to the timing you established before and don’t shift or merge poses into movement just because you need more frames for a particular overlap!

The reason to keep the keys clean and not too offset as long as possible, is that you should be able to adjust the major timing for the sake of entertainment until it is approved, because when you are working on a sequence of 3 or 4 shots in a row, you have to work on all the shots at the same time to create the necessary structure of the timing and the storytelling of the whole sequence.

On the one side you should convey your acting in the most simple way, i.e. find the most simple transition between your key poses. Don’t

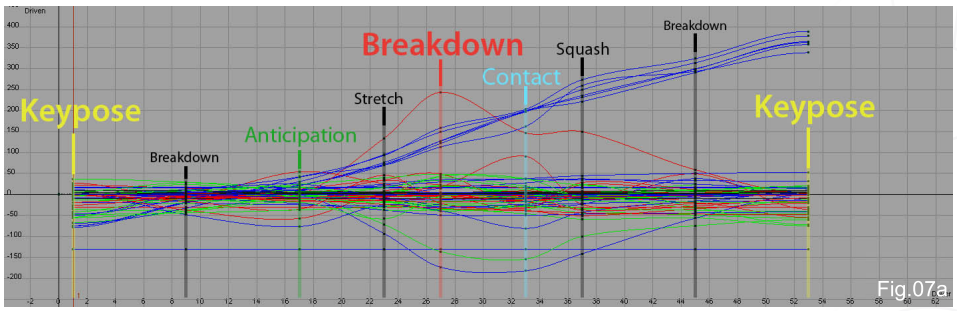
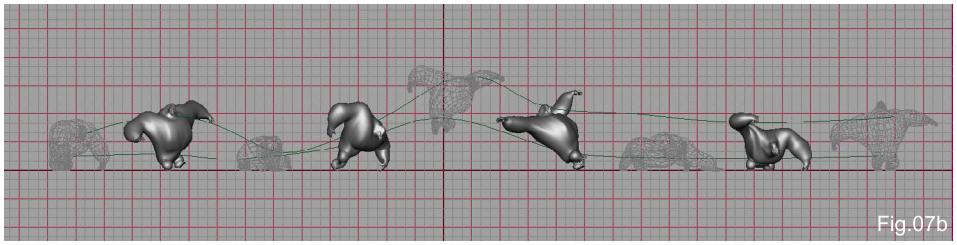


Fig.07a


Fig.07b

work on fancy arcs and overlaps for the sake of animation. But on the other hand it should still be of such a surprise and originality that, no matter how simple the action is (lifting up a book, sitting down on a chair), you find solutions that suit the character, show his personality and simply haven't been used before. Explore and be creative as much as possible within the limits of the character's brief!

In this phase, learn to see in different passes, i.e. see in time (just feel the beats and the overall rhythmical pattern in which the poses happen); for example, fast-fast-fast-slow or slow-fast-fast-slow. Take a song that you like and listen to the patterns in which the drummer hits the drum. Transfer this pattern into a sequence of key poses and BAMM! – you have an interesting rhythm!

See in shapes, i.e. only see the outline/ silhouette, the positive space of the body and the negative space between its limbs, in combination with the environments compositional lines, and BAMM! – you have an interesting composition!

Make as much use of a character-design as possible; i.e. really look at your character and realise when a pose alone can show more than an animation.

First take care of interesting breakdowns between the key poses, that is to combine a good arc, squash and stretch, and change of shape in one single pose = breakdown. When we are at this stage the approach to timing has changed. Before, you established the timing by your feeling and intuition in a very "straight ahead"-like spontaneity. Now you have reached the next level of detail and have to look at the actual frames and their roles. Therefore, I always keep in mind the rule of 2s and 1s from 2D animation: plan in 2s or "regular" frame numbers and you are always able to put at least one pose in-between! That way you take more control over the in-betweens and leave less and

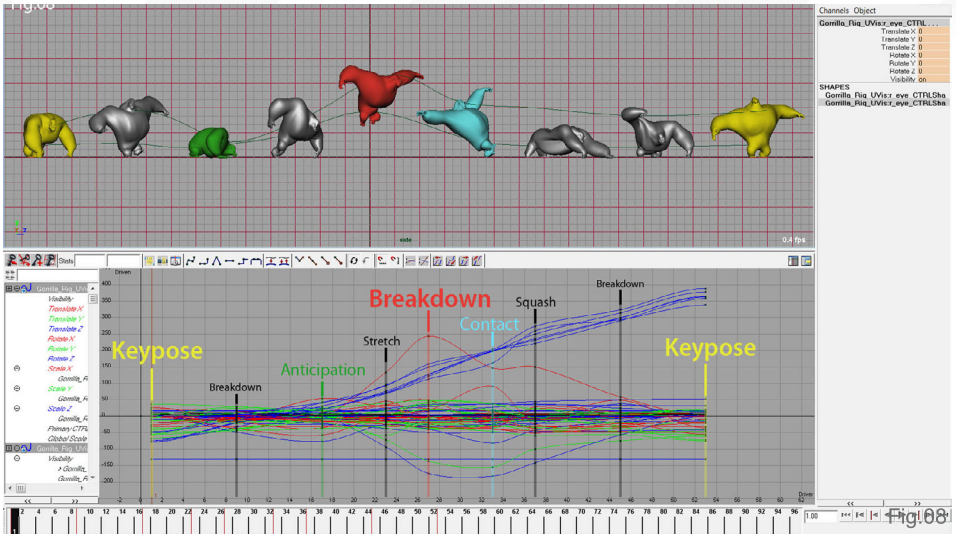


Fig.08

less work to the computer. For example, put a key pose on frame 1 and the next key pose on frame 16. Put the breakdown right between them on frame 9. Now you have 8 frames on each side of the breakdown and you can again set a pose right between them. Have a good mix between even frame transitions and uneven frame-transitions, and you will end up with a very realistic result!

## Contrast

Probably the most effective means for creating interesting animation is contrast. It catches the viewer's attention, mind and heart – not just his eye!

Contrast, timing-wise, means slow beats work against fast ones; staccato moves against fluid lines; snappy moves against holds, and so on.

Contrast, **composition-wise**, means small, colourful and detailed shapes work against big, monochrome simple ones. For example, a detailed, brightly-coloured character silhouette against a simple cloudless sky; a monochrome stylised character design within a highly-detailed and colourful jungle environment, and so on.

Contrast, **character-wise**, shows the typical features within and the differences between personalities; e.g. a young, nervous and playful kid against a heavy, stoic, serious bank man – big and broad moves against small blinks or facials. Use the contrast between movement and a still pose. Show as many differences as possible in types; i.e. nervous/silent, afraid/ encouraged, female/male, as well as differences between size, weight, age, education, environment, social-status, goals, and priorities in life, until you reach a psychological level.

Contrast, **camera-wise**, makes as much use of the camera that you are allowed to; i.e. use hand-held style, the right amount of panning or trucking in/out, or even camera shakes when they enhance the impact of the action. Remember that the goal of a shot is to make the audience feel as if they are standing right in it, and are part of the action. The camera is the eye of the audience and your job is to lead it!

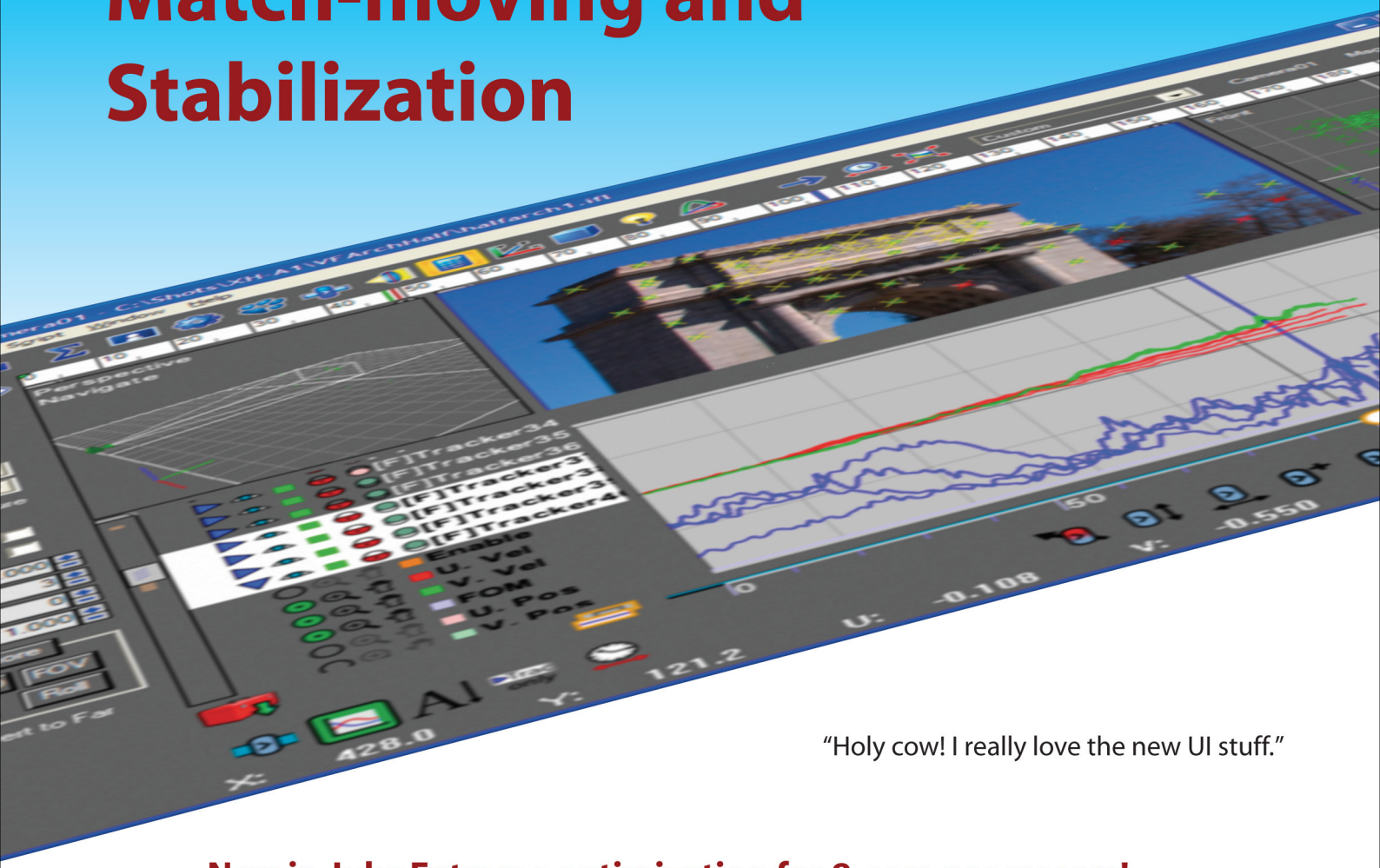
Contrast, **depth-wise**, always shows the depth in the scene by describing the 3-dimensional space; i.e. plan footsteps through the actual 3D environment and work out poses and arcs in the perspective-view.

## Daniel Zettl & Robert Kuczera

For more from these artists please visit:
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# DEEP WATER MARINE

## MAKING OF BY ARIF PRIBADI



Hi, my name is Arif Pribadi, and in this making of I would like to show the process I used to create my image, “Deep Water Marine”. This character was created based on an underwater theme, following another character which I made for my 2008 demo reel.

“I DON’T USE SPECIAL TECHNIQUES WHEN I’M MODELLING, AND SINCE I WANTED TO ANIMATE THIS CHARACTER I HAD TO START OUT WITH A NEUTRAL POSE FIRST OF ALL, SO THAT I COULD THEN MOVE IT WITH MY BONE RIG. ”

# MARINE DEEP WATER

## CREATED IN:

XSI, ZBrush & Photoshop

## CONCEPT

The first thing I needed to do was to pre-plan my project. This was important because my main focus was on my character modelling reel, and so I wanted to make the image work from all angles and be able to move. With these goals in mind, I firstly needed to create a rough concept drawing. I used a lot of references and research materials, which I found from the Internet and books, and watching documentaries was also useful. I left the concept (**Fig.01**) rough and simple, so that I had the freedom to modify it later on.

## MODELLING

The first thing I do when creating a model is to prioritise the function and reason behind the work. That's why I focused on the effective line flow of the mesh in this piece. Evenly spaced polygons are your best bet! I don't use special techniques when I'm modelling, and since I wanted to animate this character, I had to start out with a neutral pose first of all so that I could then move it with my bone rig.



Fig.01

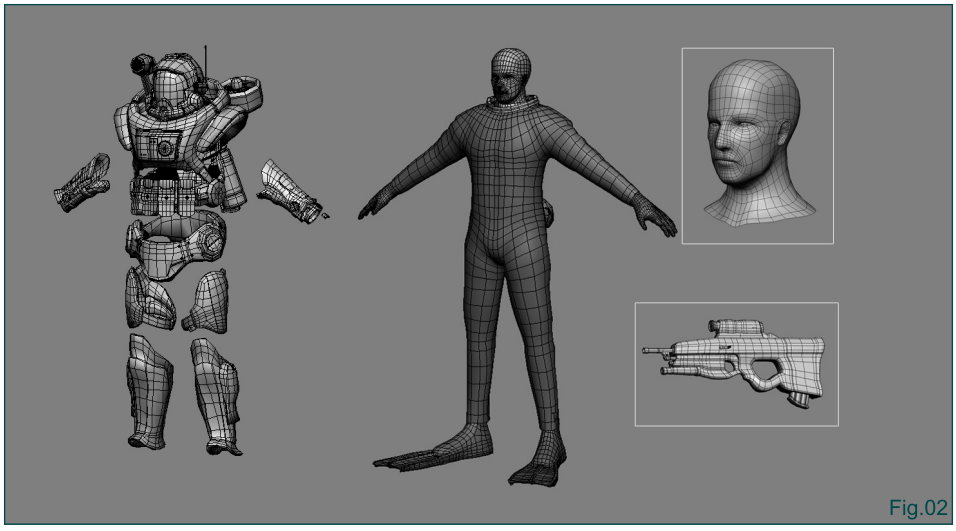


Fig.02

My model was separated into 3-4 parts (**Fig.02**). The first part was the deformable organic geometries, like the head, body, hand, and flippers; second was the diving suit and equipment; third were the additional accessories, such as the gun, etc. The key was to keep things simple and organised.

## UV

Once I was satisfied with certain details, I started to UV-unwrap my character. Basically, I grouped four different materials, so I unwrapped them separately (**Fig.03**). I used both native XSI unwrap and Roadkill. Roadkill is a freeware that you can get from this website: http://www.pullin-shapes.co.uk/page8.htm. Basically, it can unwrap your model automatically by just selecting the cutting points, and I use this as my XSI plug-in.

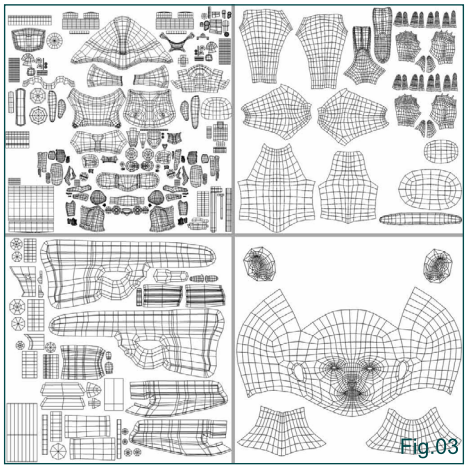


Fig.03



Fig.04

## SCULPTING DETAILS

At this stage, I needed to take my model into ZBrush for further detailing. I didn't want to sculpt all the geometry I had; I only sculpted the parts that were worth being sculpted, in

particular the deformable or soft parts (**Fig.04**). In ZBrush, I used an elastic brush to create wrinkles on the diving suit. The deformation in the tools option, such as inflate, was very useful in creating some symmetrical and non-organic shapes. It was important to pay attention to balance of the details; I didn't want to concentrate in just one area. I imported the diving suit's hard armour so that I could preview the overall look, when necessary.

With regards to the head (**Fig.05**), this was one of the crucial parts of this piece; the head of your characters will most likely become the main focus of expression, and so with this in mind I had to use references for my character. In my case, I used a Hollywood actor's face as my reference. I used different alpha and drag brushes to create the pores on the face, and you can even create custom alpha brushes for this task! I used Zmapper to create the normal map, after I was finished with the sculpting.



Fig.05

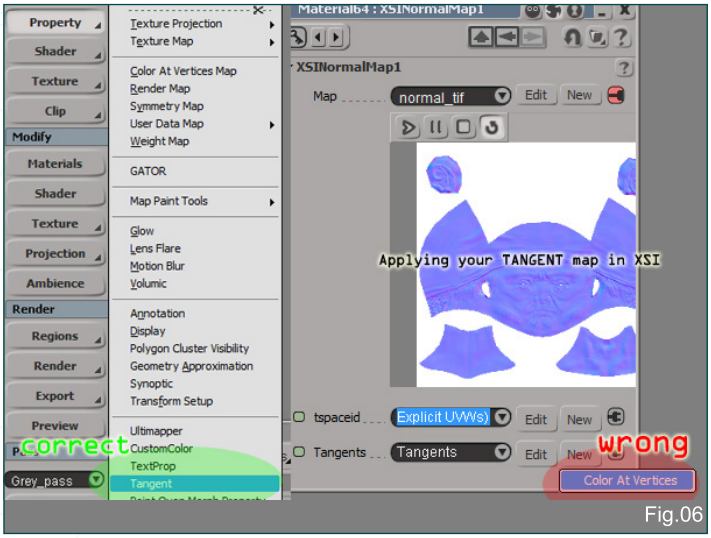


Fig.06

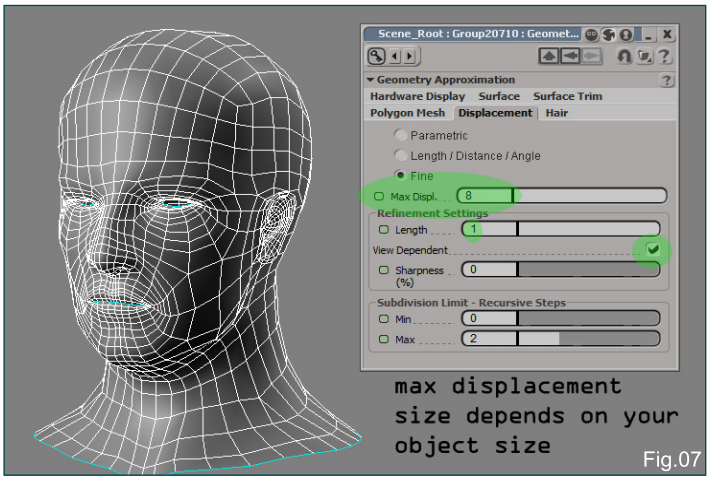


Fig.07


Fig.08

## FROM ZBRUSH TO XSI

Once I'd finished the ZBrush sculpt, I could then start extracting the normal map, using Zmapper, and the displacement map using Displacement Exporter. You can search the ZBrush website for a guide to using these tools – you will find it quite informative and detailed! I used a new low poly mesh that I modified from ZBrush, replacing the old low poly mesh. The reason for this was that, with the more accurate low poly silhouette, I could gain more accurate displacement and normal map renders. When I was applying both the normal map and displacement map, I always made sure to use tangent (Properties > Tangent) in the object properties, and I also made sure not to forget to freeze the model after applying tangent (**Fig.06**).

With regards to displacement (**Fig.07**), I made a way to optimise the displacement render. (My friend helped me to create a tutorial for this –

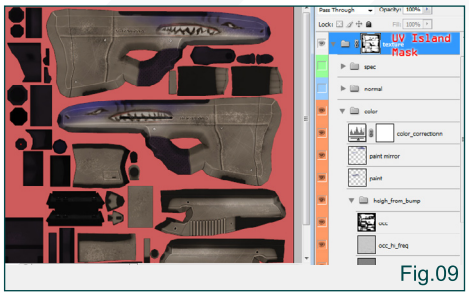
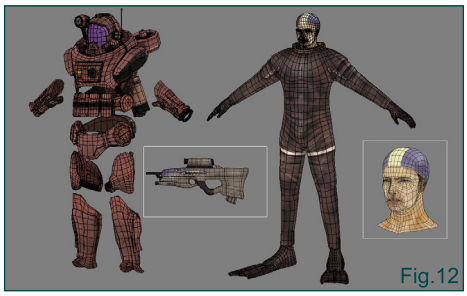


Fig.09

the video can be found on his website at: http://darkvertex.com/tutorials/fasterdisplacement/). Depending on your object size, max disp. may vary; don't hesitate to test the numbers for something more than 10 – use your artistic eye! If it appears to be "blobby" then it means you've used way too much; if you don't see anything in the render then that means it's too low! We can see the rendering results in **Fig.08**.

## Texturing

Because I followed the previous steps in a specific order, I had the advantage at this stage. I was actually able to recycle the normal map that I created (or displacement), to create the colour map and specular map – and I could even correct/add more detail in the normal map itself (**Fig.09**)! With crazy bump, you


Fig.12

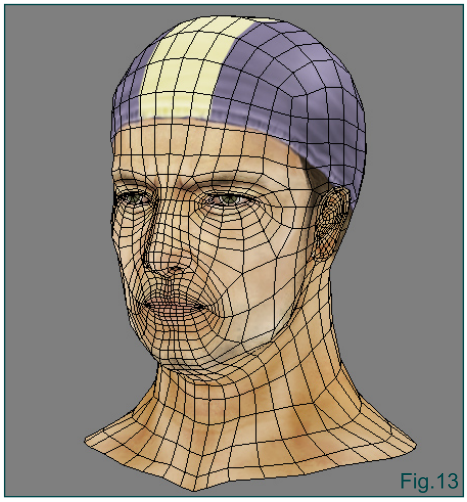

Fig.13



Fig.10


Fig.11

can easily convert the normal map into a high frequency diffuse map (**Fig.10**). I used this map in Photoshop as an overlay layer, enabling me to get instant details. I always make sure my Photoshop layers are organised into groups, as this makes it easier for me to make changes or to add additional paint. I also use a Photoshop file for each material (**Fig.11**, Fig.**12, Fig.13, Fig.14 & Fig.15**).

## Rigging, Posing & Animating

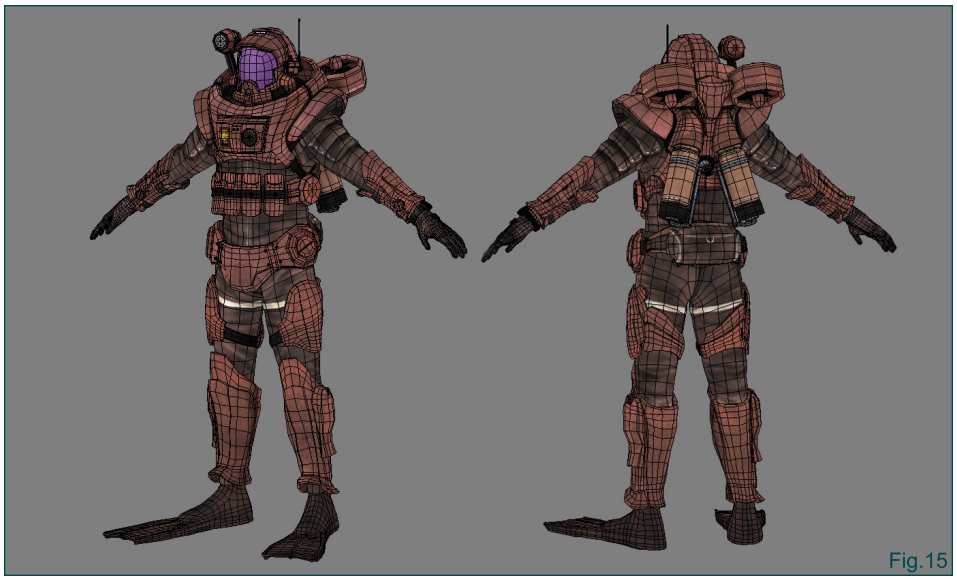
As previously planned, at this point I needed to setup the bones and the weight of the character, but I didn't want to use rigging that was too complex (**Fig.16**). Everything was simple as far as animating and posing went! Since my character didn't have too many polygons, it was easy to rig and animate him. As long as the rig is well organised, it will be fun to play with!

## RENDERING & LIGHTING

At this stage, I rendered my character in my favourite pose. Basically, I separated the renders into three passes: colour, occlusion and volumetric light. By separating these renders I could adjust the final compositing, either in After Effects or Photoshop.

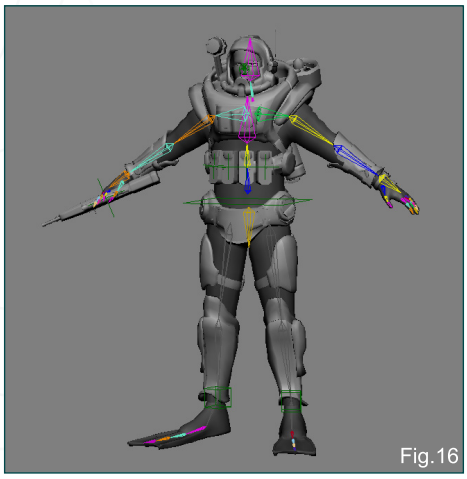
The lighting technique itself was pretty simple. First of all I adjusted the key light, rim light and other light using a directional light, with the shadow only appearing on the key light (**Fig.17**). I also needed light to come from his weapon, as well as a flash light mounted onto his armour.


Fig.14


Fig.15

## POST-PRODUCTION

After my test renders and several adjustments, I had the final look of my character. I then took it into Photoshop for the final adjustments where I added the background, which I played with by experimenting with the colours and the mood. I love to create a stylish look, just like comic cover illustrations. I tried to search for free textures, like those from cgtextures.com, to achieve caustic dust effects on the background. After several adjustments and mixing layers, I finally achieved the end result (**Fig.18**).


Fig.16

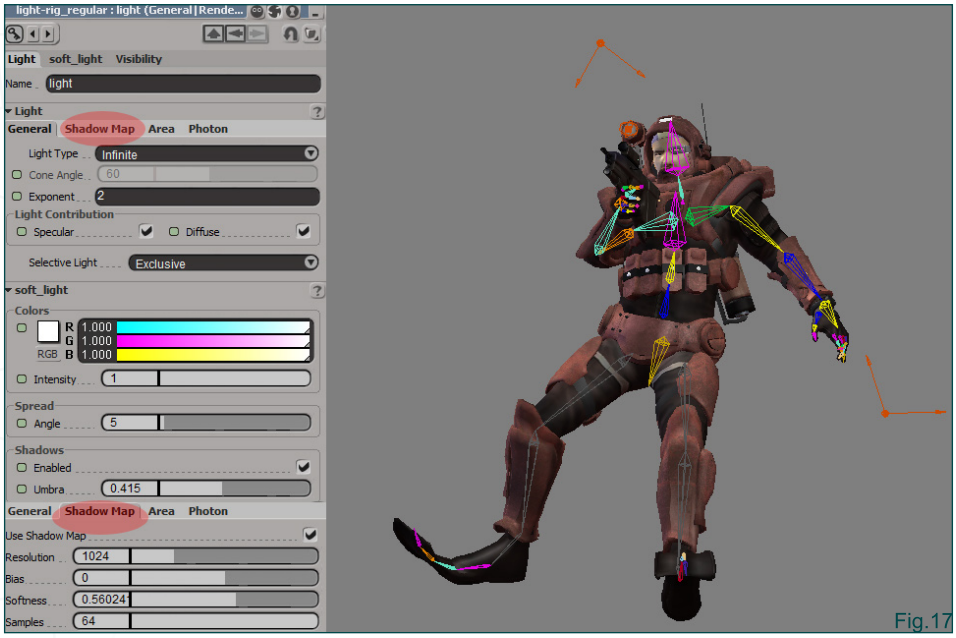


Fig.17

## CONCLUSION

Don't be afraid to play with colour style and materials! I always keep myself open to playing with the style of my work, as long as it looks natural, with a balanced composition, and is comfortable on the eyes.

## ARIF PRIBADI

For more from this artist visit:
http://arifcreations.com/
Or contact:
3d60arif@vfs.com


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Fig.18

# Ranxerox salesman

## making of by Sebastien Sonet




Read how Sébastien Sonet used ZBrush to re-create one of his favourite comic book characters: "Ranxerox" ...

"Having arrived at a certain stage of this image, I realised that the left hand of the character posed a dilemma. After much thought, I finally decided to remove it completely. It seemed to create a persona that wasn't in tune with the brute the character actually is."

# Ranxerox Salesman

## Created In:

ZBrush

## Introduction

My initial idea was to pay tribute to the creators of one of my favourite comic book characters, “Ranxerox”, by Tanino Liberatore and Stefano Tamburini. My approach was to imagine what would have become of this character, years after his famous adventures in New York. I was playing with the idea that he had probably found work – so why not a salesman, given his legendary good mood?

## Modelling

### The Head

For the modelling of the head I took a very basic form, created with the excellent Topogun software (currently in beta), from a former model. The model was then imported into ZBrush, and at every level of subdivision I tried to direct the sculpting of the model towards the idea that I wanted to capture his rough side,


Fig.01


Fig.02


Fig.03

whilst showing the aging of the character (a double chin, some sagging flesh, etc.), using the reference images that I had on hand as a guide (**Fig.01**).

The layers in ZBrush can quickly test different positions and masses, with the possibility of going back at any time so that you can lessen the influence of the layer over the entire model. This actually enables a considerable time gain!

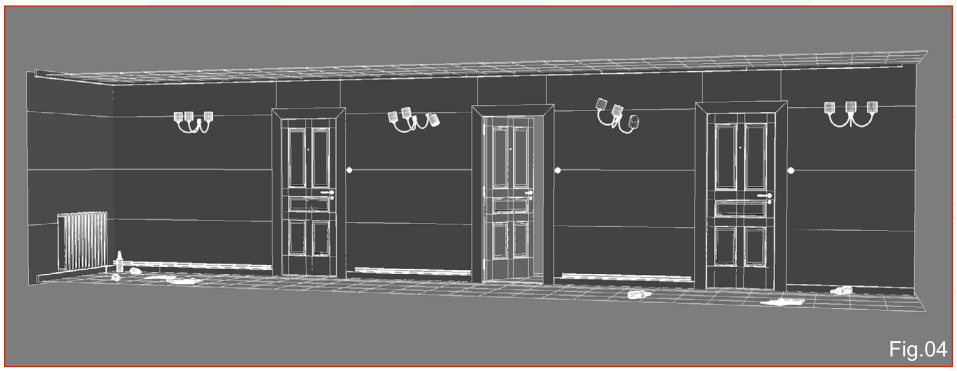
### The Body

Various body parts were obtained from meshes, really very simply, and then imported and

reworked in ZBrush. The pose was also done in ZBrush with the Transpose Master plug-in, which helps to define a position using all of the subtools that make up the object (**Fig.02** and **Fig.03**).

### Set Design

The modelling of the scene was not too difficult and I don't have any special tips for this part. Each element was simply created using the box modelling technique (**Fig.04** and **Fig.05**).


Fig.04

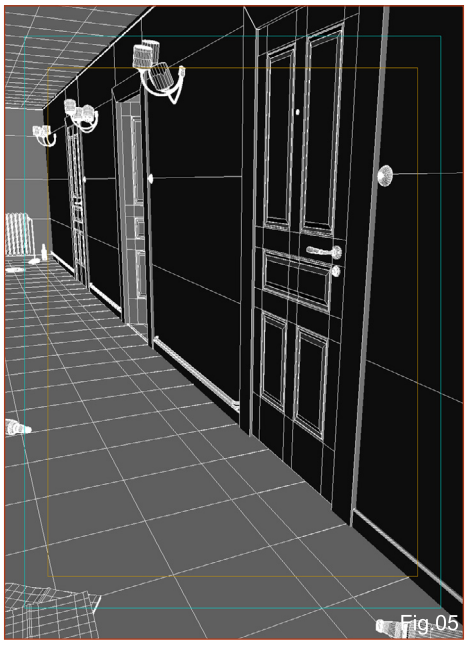

Fig.05


Fig.06

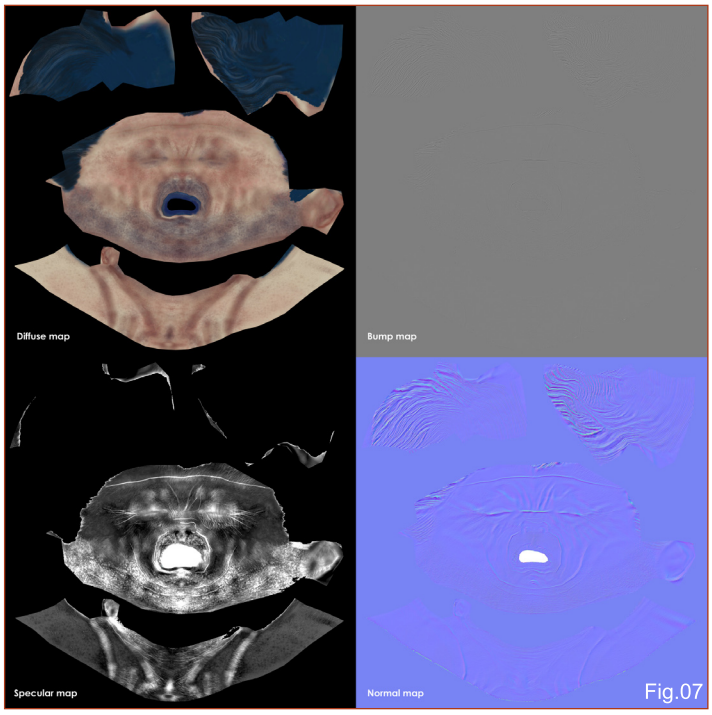


Fig.07

### The Dilemma of the Left Hand

Having arrived at a certain stage of this image, I realised that the left hand of the character posed a dilemma. After much thought, I finally decided to remove it completely. It seemed to create a persona that wasn't in tune with the brute the character actually is. This was a hard choice and one I've somewhat regretted making (**Fig.06**).

## Texturing

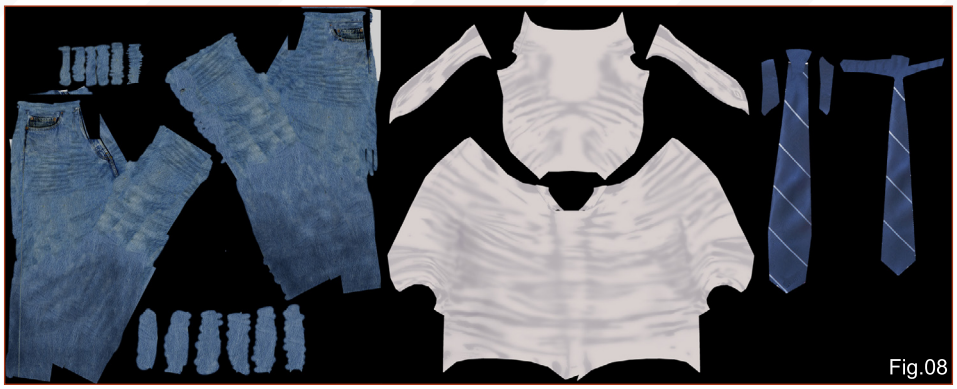
### The Head

All of the textures that make up the head (Diffuse, Specular, Bump) were painted by hand in ZBrush, and then retouched in Photoshop (**Fig.07**). The Cavity Masking function was very useful because it allowed me to highlight the small colour imperfections of the skin and beard, etc. The normal map was generated with Zmapper.

### The Body

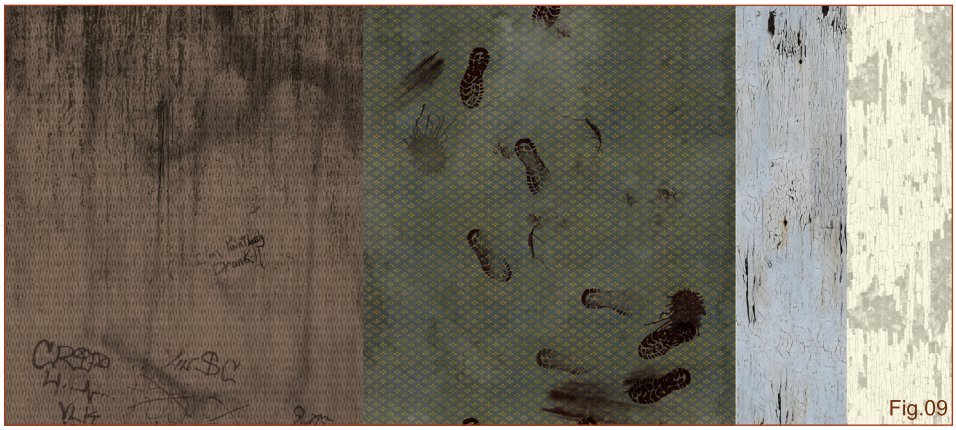
The textures for the clothes were made first in ZBrush, and then in Photoshop (especially with regards to the jeans, which were created from

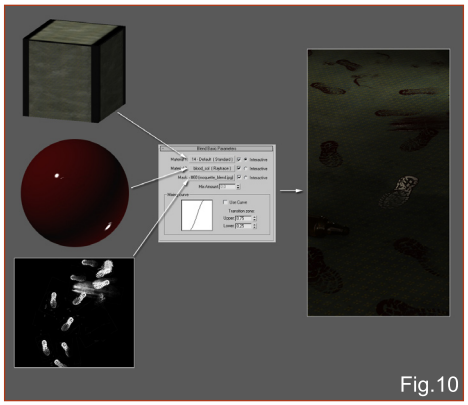
a reference photo of a pair of jeans from a jeans store!). The tattoo on Ranxerox's arm was a little "wink" at his eternal companion, Lubna, who is absent from my image (**Fig.08**).

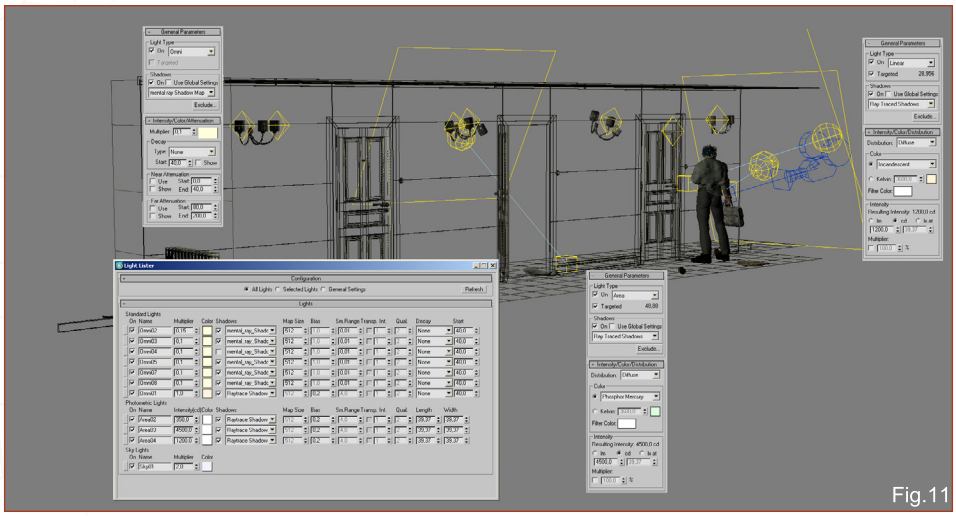

Fig.08

### Set Design

The decor and textures were mostly taken from the 3DTotal Textures collections. I modified them somewhat; adding dirt and combining them a little in order to achieve the right kind of atmosphere that I was seeking – a dilapidated, old building (**Fig.09**).


Fig.09


Fig.10


Fig.11

## SHADERS

### The Skin

The rendering engine used for this image was Mental Ray. It was therefore quite natural that I turned to the Fast Skin shader, with a minimum number of settings, as this often gives good results.

### Traces of blood

The traces of blood were obtained by mixing the basic shader with a raytrace shader, using a blend map in 3ds Max. The map served as a mask and was also used as the bump map for the blood (**Fig.10**).


Fig.12

## LIGHTING

I spent a lot of time on setting up the lights, in order to achieve the right atmosphere – I wanted to achieve a dark and dusty feel (Fig.11). I basically used some spot lights and omni lights, with variable intensities and scattered along the corridor. These then obviously led to zones of shadows. The first plane was illuminated by

two target area lights (very strong on the right and weaker on the left). The overall scene was illuminated by a low level skylight and HDRI map.

## Rendering and Post-production

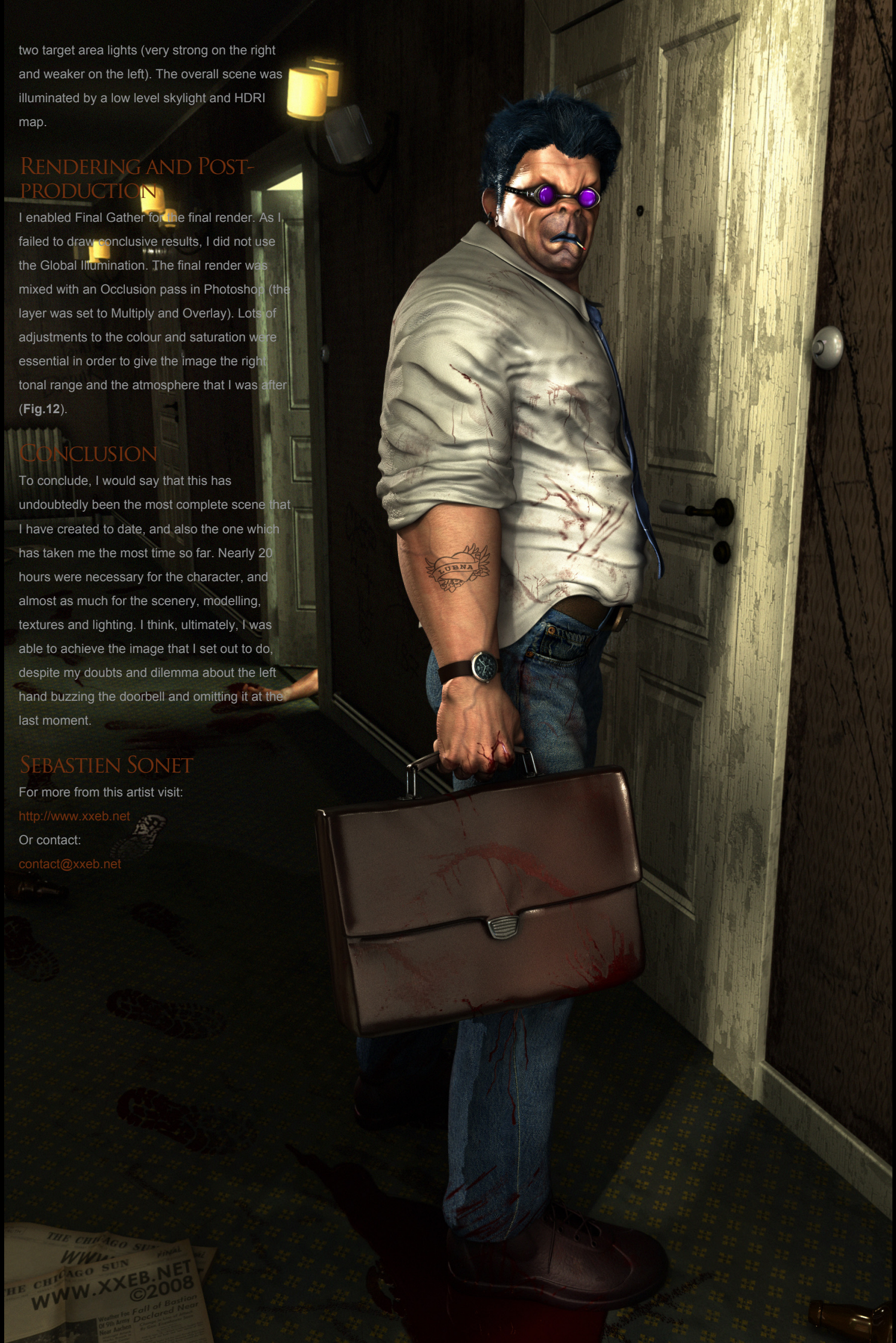
I enabled Final Gather for the final render. As I failed to draw conclusive results, I did not use the Global Illumination. The final render was mixed with an Occlusion pass in Photoshop (the layer was set to Multiply and Overlay). Lots of adjustments to the colour and saturation were essential in order to give the image the right tonal range and the atmosphere that I was after (**Fig.12**).

## Conclusion

To conclude, I would say that this has undoubtedly been the most complete scene that I have created to date, and also the one which has taken me the most time so far. Nearly 20 hours were necessary for the character, and almost as much for the scenery, modelling, textures and lighting. I think, ultimately, I was able to achieve the image that I set out to do, despite my doubts and dilemma about the left hand buzzing the doorbell and omitting it at the last moment.

## Sebastien Sonet

For more from this artist visit:
http://www.xxeb.net
Or contact:
contact@xxeb.net

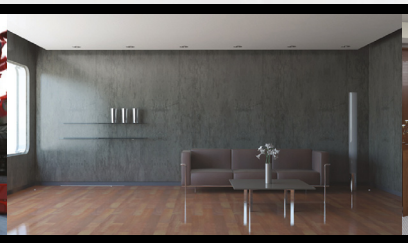


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"If you intend for your model to be in an action pose in the picture, or if they'll be rigged in the future, it's a good idea to create them in a Da Vinci pose."
Hi there, my name is Malanjo, I'm from Portugal (Trás-os-Montes e Alto Douro), and I would like to thank Lynette and the 3DCreative team for inviting me to create this "Making Of" for you!
making of by malanjo
Uplift Universe

# Uplift Universe

## Concept and Idea

I created this image for the CGTalk's 22nd Challenge: "Uplift Universe". The main theme for this challenge was the "Relationship between Humans and Aliens". My main goal wasn't to create a little green alien standing by the side of an astronaut with futuristic clothing… My starting point was actually to make something light and chilled – a magical moment, unique in life and visually strong.

So, my first idea was to create an ambience with curiosity and amazement – a discovery; something new for both sides of the "relationship" (the human and the alien). Making a female was the starting point for this piece (before this, I actually already wanted to create a girl in 3D, just to improve my CG skills!). At this point, I didn't have a final image in my mind but I knew that this was going to be more than a simple project for me, as with this exercise I wanted to create a process, like a live drawing project – finding an end and always improving the "painting". So the first thing I did was to find references for the girl and the alien concept.

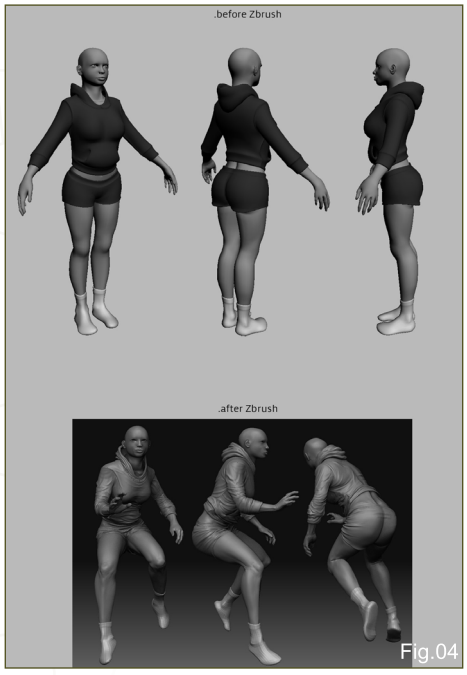


Fig.04

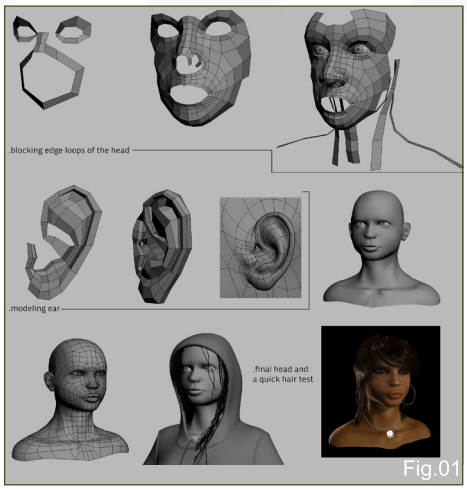
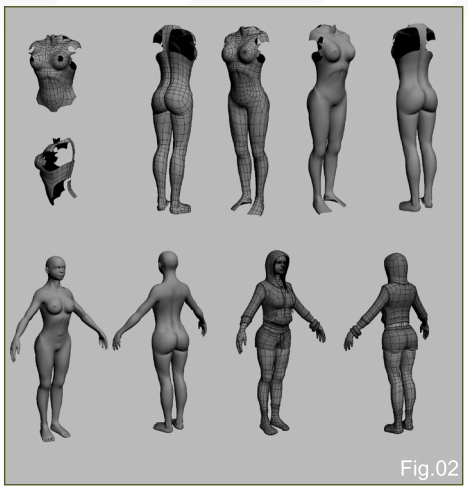


Fig.01


Fig.02

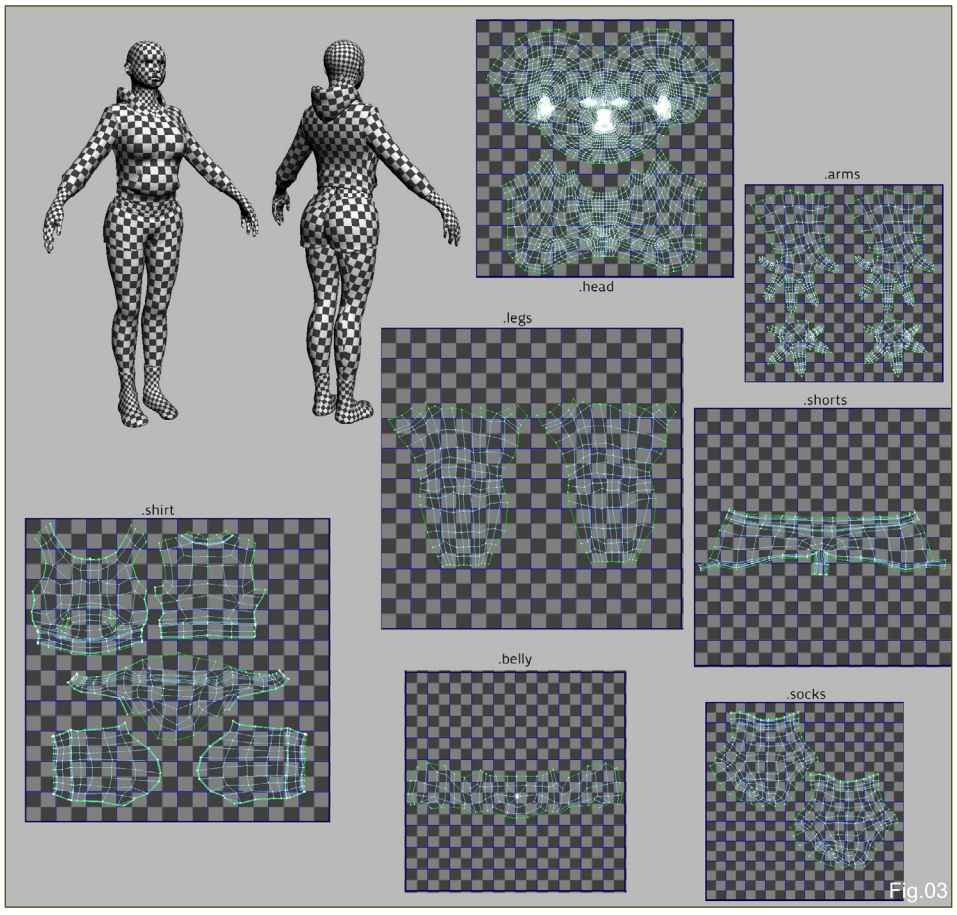


Fig.03

## Modelling

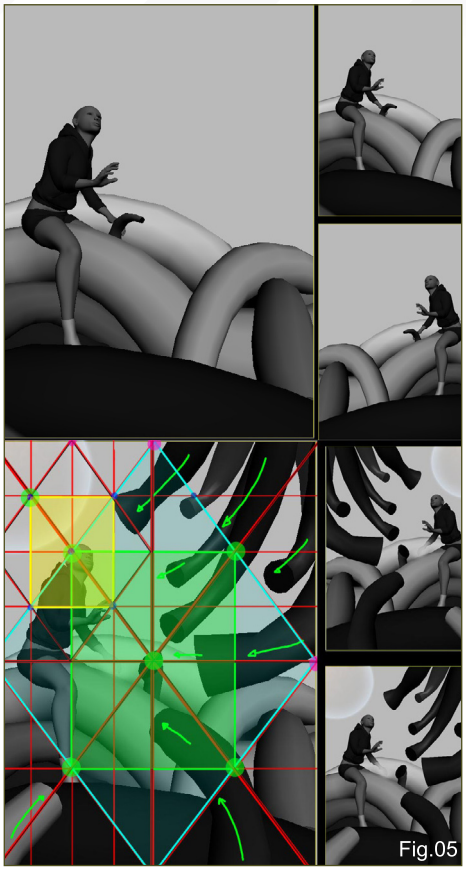
I started to model the girl using a reference of the Top Model, Adriana Lima. I tried not to create anything hyper-realistic because I didn't have too much time to work on the image for the challenge – just a month and a half after work and some time to chill out. I was simply playing around and trying to get a sweet picture. So, at this stage, it was good to have a clear methodology. I planned for a month to do the entire elements ready to render, a week to do the large renders and to think about the mood of the image, plus a week to do the final composite. So I started off modelling the most important part of a character: the head (**Fig.01**). It's really important to have a good model of the head and to achieve a cool look, because this gives inspiration for the other parts of the body. So as well as the proportions, I started thinking about edge loops and a simple and sweet

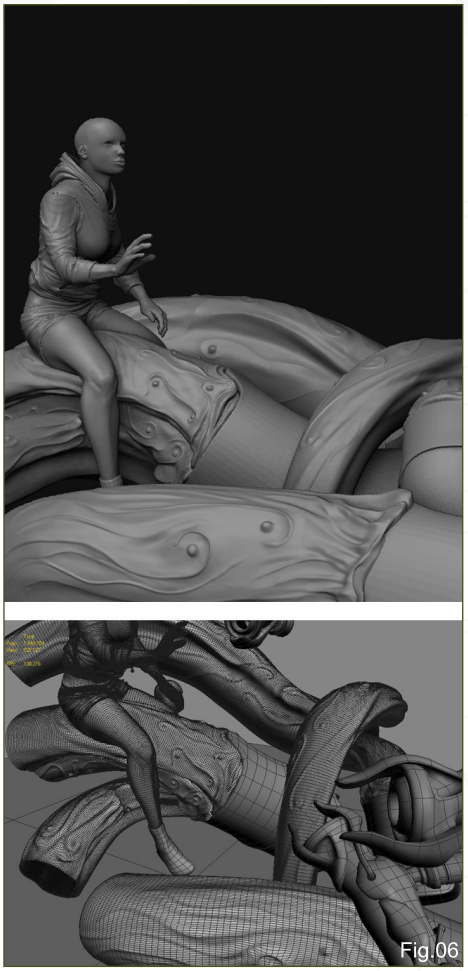
geometry. It's always good to draw attention to the other elements of the head, and achieve a good relationship with the general form of the head.

After I'd finished the head, the next step was to create the body and the clothing, always using references. I was going for an "ordinary" girl, who was at home before the meeting with this alien.

If you intend for your model to be in an action pose in the picture, or if they'll be rigged in the future, it's a good idea to create them in a Da Vinci pose. Keeping the joints slightly relaxed is the best choice, because a general human pose is relaxed at the joins of the arms and legs, etc. (**Fig.02**).

After doing the base modelling, the next step was to set the position of the character and also add details - after doing the necessary


Fig.05


Fig.06

UVs layouts of course (**Fig.03**). For the position of the model (because I didn't have too much time), I used the transpose master, from ZBrush. I also used ZBrush to give more detail to the model, always keeping in mind dynamic shapes, interaction, weight and so on (**Fig.04**).

After modelling the girl, I started blocking in the image in 3D, constantly trying to achieve a good harmony between the two characters (the girl and the alien). To help me in the geometric composition of the image, I used some painting theories from my college days (at the University of Fine Arts - Porto) (**Fig.05**).

With everything almost in place, I continued with the modelling, going back into ZBrush to work on the arms of the alien. Following this, I imported the geometry of the alien's arms into 3ds Max, with a good subdivision level in order to keep a good level of detail. Of course, if I had intended to do any animation or rigging,

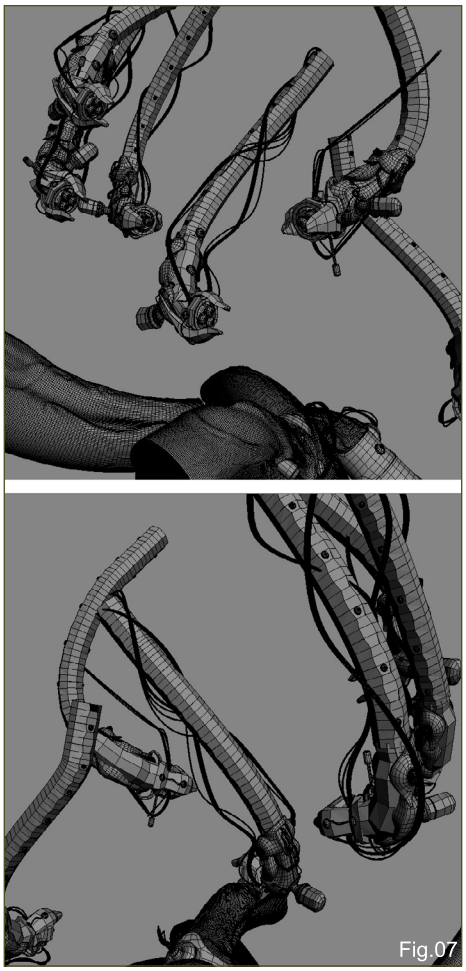

Fig.07

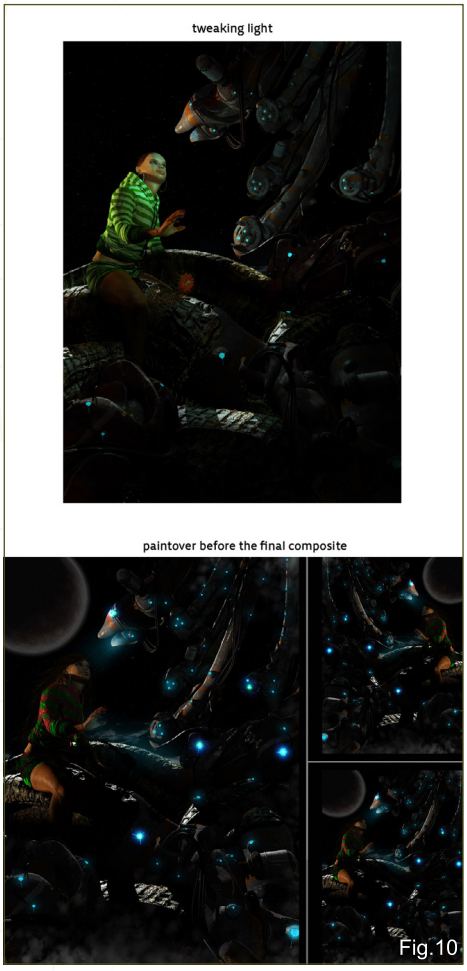

Fig.08

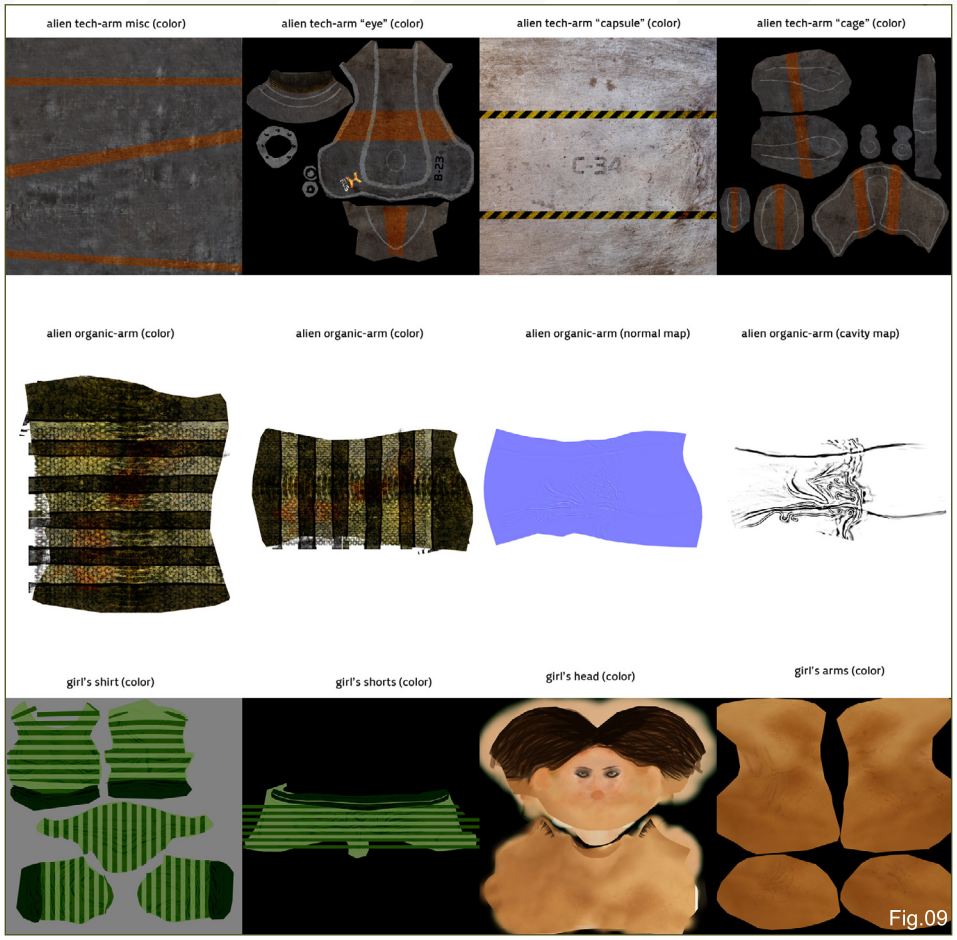
then this wouldn't have been the most practical decision because it's not the best choice in a production pipeline with "animation and rigging" on the agenda. Because this was just for an image though, then the decision was okay for me. (**Fig.06**).

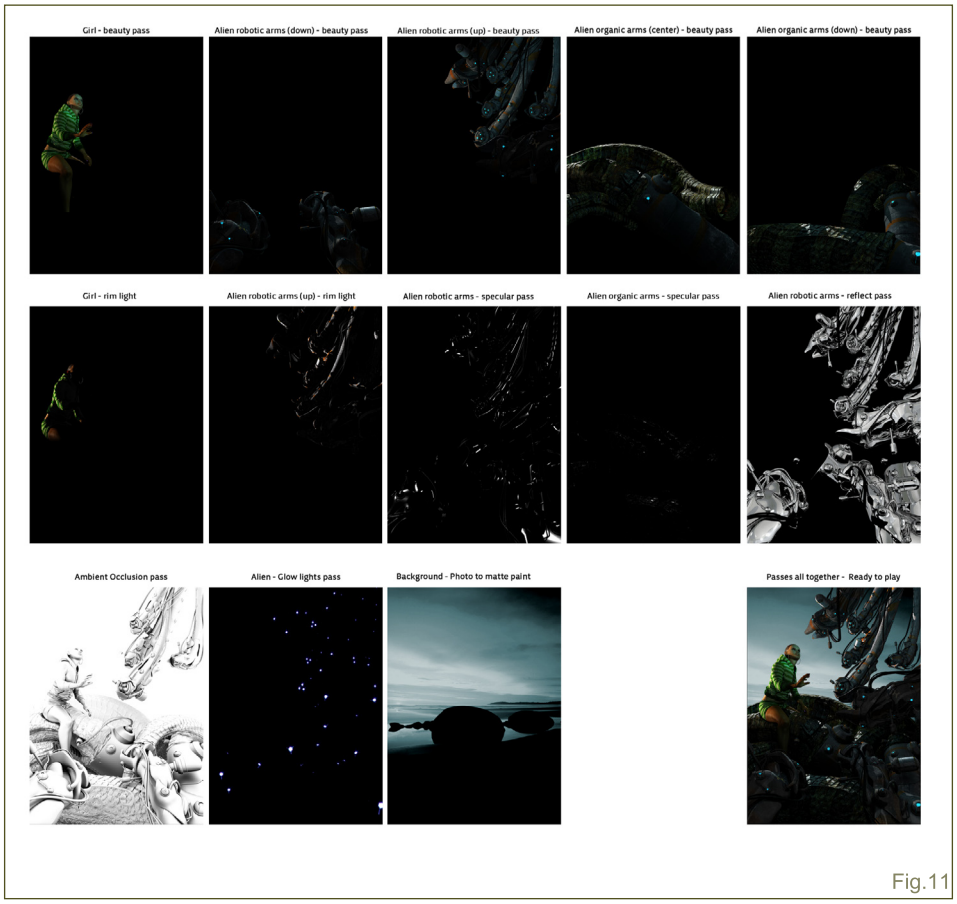
So, at this stage, I just needed to model the mechanical arms of the alien in order to start the next stage: texturing. So, my inspiration for the mechanical arms of the alien was the gasoline hoses of Formula 1 racing cars. To position the arms I used splines and path deform (**Fig.07**).

## LIGHTING AND TEXTURING

After modelling everything, the next step for me was to block in the light (**Fig.08**) and create the textures (**Fig.09**). I used Photoshop and ZBrush to make the textures - nothing too detailed though because the main work gets done in the compositing stage. I used photos and hand painted the textures. The main maps



used were Color, Displacement, Reflection, Specular, Bump, Normal and Environment (HDRI).

Before starting the final composite, I tweaked the light and made some paint-over sketches in order to have the ideas in place before beginning the final composite (**Fig.10**).

## COMPOSITING

Because I didn't have too much time to create this image, many of the problems were solved at the compositing stage, with the help of textures and digital paint. And so, I rendered some 3D elements separately and made some render passes (**Fig.11**), to get better control over the time of the compositing process.

As I mentioned before, I didn't have too much time to do the 3D stage, so the image was tweaked with Photoshop. It wasn't a straight forward process; I experimented with a lot of textures, colour corrections, the lighting, matte painting, visual effects, and so on. The girl's hair was hand-painted, and the alien's light effect was a photo manipulation. I used some photos and textures to retouch the image, and I think the 3D here was used just as base really, as a lot of the image was done finally in Photoshop.



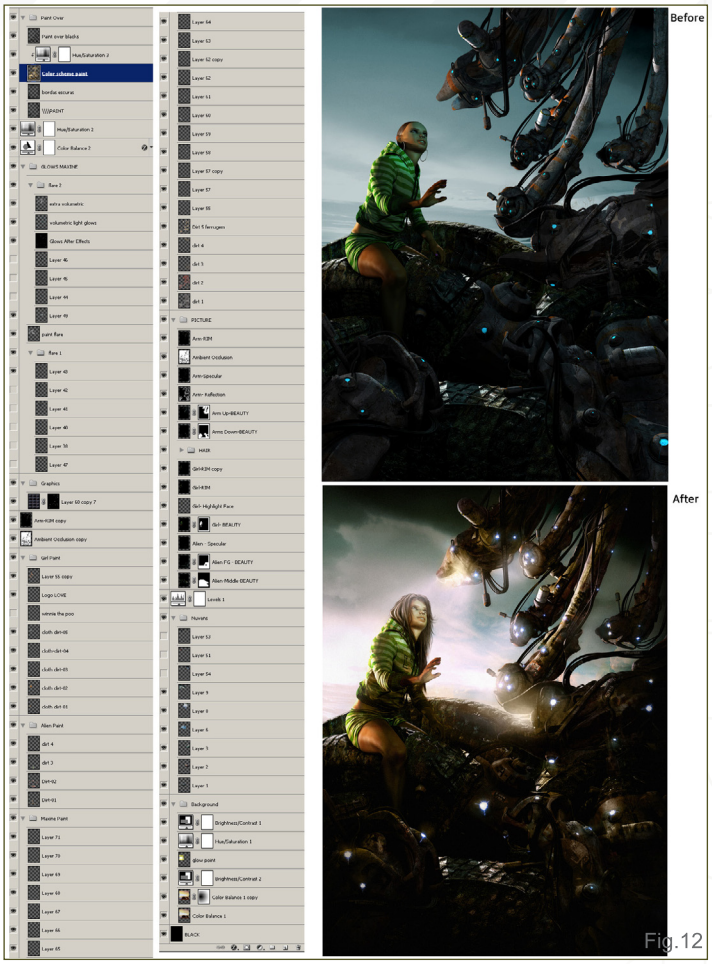


Fig.12

The main goal of the image was to create a hot environment, at sunset, and to pull the central point of the image to the contact zone of the girl and the alien – somewhere in the girl's face and the main arm of the alien. **Fig.12** shows the number of layers used, and the image before and after the final compositing work.

I hope you found this "Making Of" useful. You can find the image in 3DCreative's June Galleries.

I want to thank the 3DCreative team for this opportunity, and the readers for following this "Making Of". If you would like more information, please feel free to contact me. See you soon and thanks!

## MALANJO

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**This month we feature:**

## "Jimi Hendrix: The Guitar Legend"
by Marcin Klicki





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# Jimi Hendrix: The Guitar Legend

## By Marcin Klicki

### Introduction



My main goal in creating this piece was to show Jimi Hendrix playing his favorite song, one which he loves and which gives him a lot of pleasure to play, but also makes him seem sad, although I didn't want this mood to be too obvious. Why Jimi Hendrix? Because my friend convinced me to give it a try in the Max3d. pl CG challenge, called *Myths and Legends*. The idea of showing the guitarist – undeniably a "legend" – was just brilliant, so it had to be Jimi. My inspiration was through Google, where I would advise people to search for reference images. My biggest motivation came from my friend, who constantly reminded me to work well, but quickly, for which I thank him now. I aimed to achieve a good, final effect and make the scene work



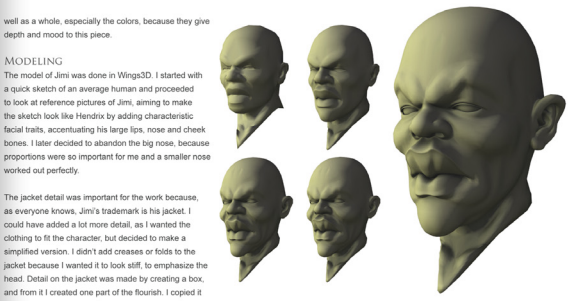
well as a whole, especially the colors, because they give depth and mood to this piece.

### Modeling

The model of Jimi was done in Wings3D. I started with a quick sketch of an average human and proceeded to look at reference pictures of Jimi, aiming to make the sketch look like Hendrix by adding characteristic facial traits, accentuating his large lips, nose and cheek bones. I later decided to abandon the big nose, because proportions were so important for me and a smaller nose worked out perfectly.

The jacket detail was important for the work because, as everyone knows, Jimi's trademark is his jacket. I could have added a lot more detail, as I wanted the clothing to fit the character, but decided to make a simplified version. I didn't add creases or folds to the jacket because I wanted it to look stiff, to emphasize the head. Detail on the jacket was made by creating a box, and from it I created one part of the flourish. I copied it a few times and made interconnections using the bridge tool. I fitted the finished model to the jacket using the "tweak" utility, which is one of the most powerful features of Wings3D. I added little bells by creating a sphere and adding a bit of detail and cutting the insides. I then duplicated it along the surface of the jacket and rotated it in different directions to break up the symmetry. The next stage involved cloning everything to the other side of the jacket. The sleeves had little detail so I added two patches on every side and a spot to add hair to later on.

The guitar was done in a similar way, by finding good reference photos and using them to create a model that represented an original (Fig.01). I started with the body of the guitar by making an overall shape of both the body and the fret board and then placing little boxes



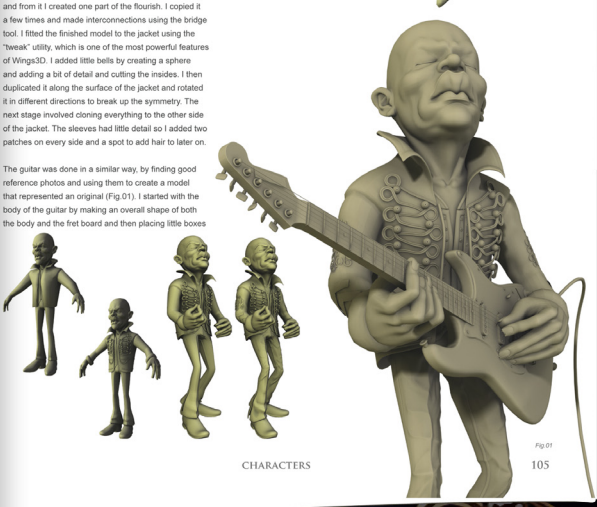


Fig.01



The following shots of "Jimi Hendrix: The Guitar Legend" book pages are featured here in full-resolution and can be read by zooming in...

in spots where I knew I was going to add extra detail. When the main shape was similar to a guitar, I made boxes into more complex elements, keeping in mind the rule "work from big to small". I made everything (knob, frets, bridge) using primitives, adding detail where necessary. The pickguard was created in 3D Studio Max, using splines drawn along the guitar shape which were then extruded. Meshsmooth was only added to the main body and detailed areas which required it.

### Textures

Textures are one thing I hate to do, so I wanted to achieve a good effect using the simplest methods available. First I searched for nice photos at the highest possible resolution. After posing him properly and rigging the fingers I mapped the model using Wings3D's unfold option. The corrections were made in 3D Studio Max, in

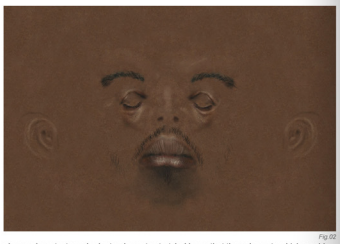


Fig.02

places where textures had a tendency to stretch. I knew that the only spots which would be visible in the final image would be the hands and head, so I scaled up the rest of the body on the texture to gain more space for the visible geometry. I baked the UVmap using Unwrap and opened it in Photoshop. I established the skin tone and copied the detail from the photographs and added some extra detail by hand (Fig.02).

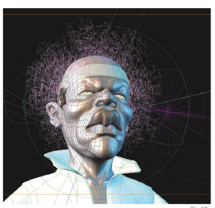


Fig.03a



Fig.03b

### Making and Rendering the Hair

With previous experience in making hair I knew it was going to be hard to connect it to the head – it almost always looks artificial, so I wanted to avoid this. I added a band around his head to avoid texturing or correcting it by painting it in post-production. The Afro hairdo worked to my advantage because I didn't have to use splines; instead I was able to use one of the hair rendering systems, like Shag Fur.

I selected faces on which hair was to emerge, and then cloned the area and scaled it down so I could hide it inside the head. I could have assigned ID values to the faces to avoid cloning them, but I believe cloned areas give better results. I set the hair length, changing the "maximum" parameter from the Parameters rollout, and activated and set the curliness. To make the hair look more dense and fluffy I set the Radius parameter properly, but turned off the Random option.

I set the Turns parameter to add little curls, which fitted perfectly, and turned on the random parameter so every hair looked different. Another necessary option was clumping. I set Amount to maximum and tweaked "radius" to make it look good (doing a lot of test renders along the way). This option groups the hair together, which makes it look more realistic. Next I moved to the material editor and used a default Max material where I set the color and specularity. I used a gradient in the opacity slot to make the hair look more opaque at the end. The rest of the effect was achieved by altering the light settings, which is where it began to look real. A bluish light was set behind the head with an intensity of three; two lights were set on either side with colors that resembled the ones in the background: bluish-orange on the right side, and bluish-red on the left. Every light had an intensity of about 0.8 and had Hair Shadows option turned on. I rendered the hair as a tga. with an alpha channel so I could add it later in Photoshop (Fig.03a–b).

I then dealt with the hair on the sleeves. Why didn't I use Shag hair again? Well, I did this to compare Shag hair and HairF/X. I have to admit that HairF/X is as good as Shag



hair, but this may be because I didn't have to worry too much about the complexity of the hair on the sleeves. I made two tubes and assigned the Hair and Fur modifier. I set the amount of hair to 10 000 and the length so that each of them differed. I then set the thickness of particular wisps by changing the Root thick and Tip thick parameters, paying particular attention to the "kink" and "frizz" ("kink" is responsible for producing the curls whereas "frizz" combines hair into groups). For the material, I went into the Material Parameters rollout and set "hue variation" and "value variation" to add a bit of randomness to the colors. I set the root color to dark blue and the Tip to a cooler light so that the earlier inserted tubes weren't visible. To render the hair I used the set of lights as I had done with the Shag hair (Fig.04).



Fig.04



Fig.05



Fig.06

### The Background

Because I was very short on time I had to do something simple, but at the same time something good enough not to ruin the scene. My friend advised me to add fog and use volumetric effects, so I tried it out and hit the jackpot. I used three colors mixed together (Fig.05). To make the fog more convincing I used AfterBurn, since the basic fog available in 3D Studio Max wasn't good enough. With the AB plug-in, I was able to add additional mists and sparks.

### Materials, Lighting and Rendering.

Because all of these elements must work together effectively, I think it's good to discuss them as one. When I started this piece, I didn't have an exact plan on how to render the whole image, so decided to compose them in Photoshop from rendered elements. I made a few skin shader tests in different rendering engines, including Mental Ray, Brazil, FinalRender and V-Ray. I preferred those done in Mental Ray and V-Ray and decided to render final passes in those two renderers. Mental Ray was used to render the skin and ambient occlusion maps, and V-Ray helped in rendering the rest of the image.

The best way to achieve a fast, interesting skin shader is to use Mental Ray's Fast Skin Shader. I made a few option adjustments, for lighting purposes, and the final image was a combination of Mental Ray's render and skin rendered in V-Ray (Fig.06).

Global Illumination itself wasn't good enough, so I added a backlight to give more depth to the scene. I also added a few smaller lights with multiplier settings of about 0.2, which illuminated particular fragments of the model, for example on the back of the calf, on the shoulders, the hand holding the pick, cheeks, guitar, and so on (Fig.07a and b).



Fig.07a



Fig.07b

The rendering process was quite easy. Fig.08 shows the rendering settings used to render almost the entire scene. After setting the right values I hit F9 and went for a good night's sleep.

The second phase of rendering was to set the scene to render the Ambient Occlusion pass. I removed all the lights and the HDRI map and turned on the Mental Ray renderer. This map displayed some blackened spots which I could use to add a better sense of realism to the scene (Fig.09).

## Compositing and Adjusting the Colors

I added more contrast to the renders so that colors appeared more convincing and made a copy of that layer – I always arrange it so I have the main picture at the bottom and make all alterations on copies. Next I added the rest of the layers – ambient occlusion, hair and fog – from AfterBurn. Layers were overlaid in different modes, mainly overlay and soft light, with different levels of saturation. I can't give you specific details on how to do this because it depends on what kind of effect you'd like to achieve. It's also good to have someone look at the work that you're doing, because it's helpful having a fresh eye from someone not directly related to your work (Fig.10).

Colors were very important to create the mood, so I made a few dozen tests, and max3d.pl forum users helped me to choose the best of them, and I then decided upon one with my friend, Jarek. I changed all of the tests using the starting point settings, using color balance in Photoshop (Fig.11a–d).



Fig.11a



Fig.08



Fig.09



Fig.10





Fig.11b



Fig.11c



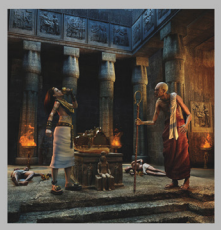
Fig.11d

## Conclusion

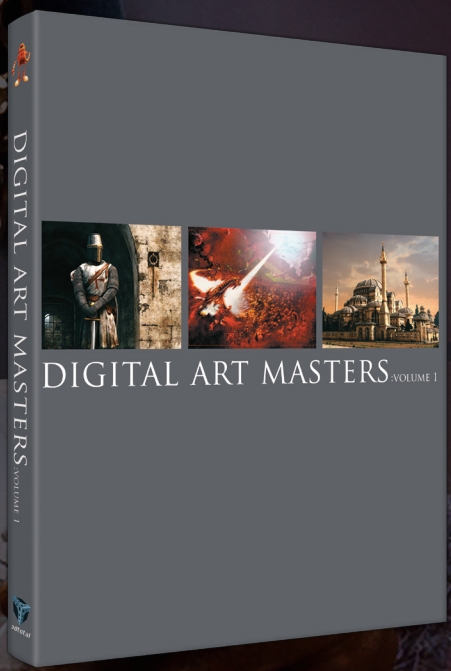
I think the final result has a good quality; the CG community has responded well to this piece, which is the most important factor. I'm very happy with the representation of the character, and the facial expression is exactly what I aimed for. There are perhaps some details that I would like to change, or redo. I wanted to also change the background by adding some amplifiers, reflectors and microphones – basically, everything that ought to be in the scene. Unfortunately, I just didn't have enough time to do it all, but thanks to the time restrictions of the project I avoided the problem of too much detail and achieved a simple, yet successful, composition.

## Artist Portfolio











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"...I like the challenge of modelling cars because there is so much detail that can go into it; so much detail that can potentially translate into a beautiful render."



# 1936 Auburn Speedster

## Making of by Richard Clark



In this "Making Of" Richard Clark has created his dream car: a 1936 Auburn Boattail Speedster. He takes you through the creation process step-by-step, explaining the stages he went through. Enjoy!

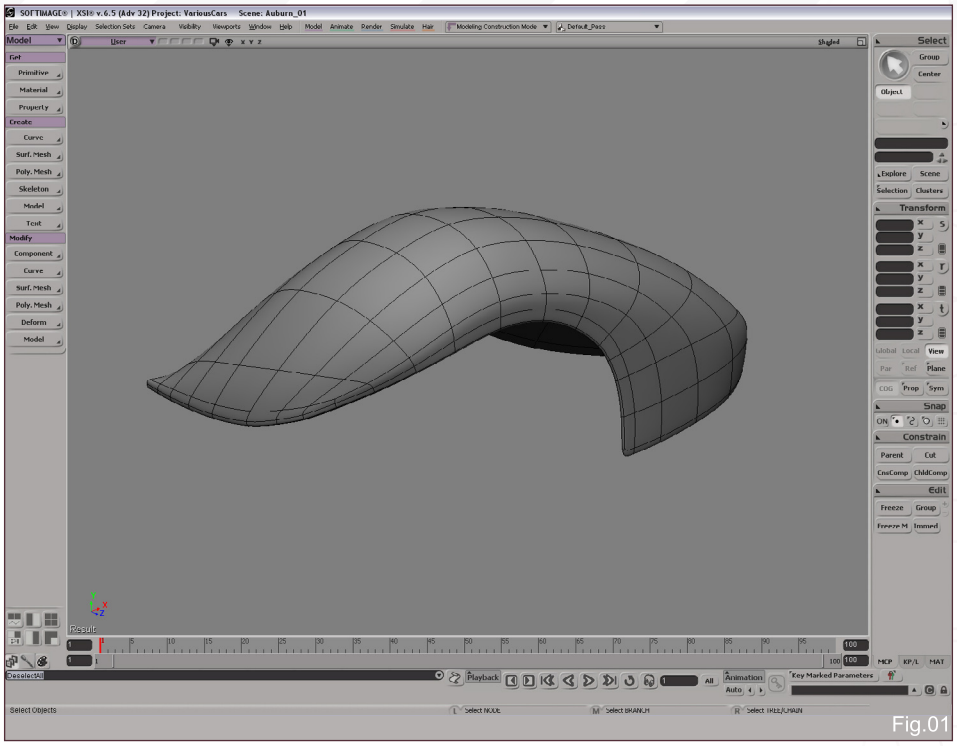
# 1936 Auburn Speedster

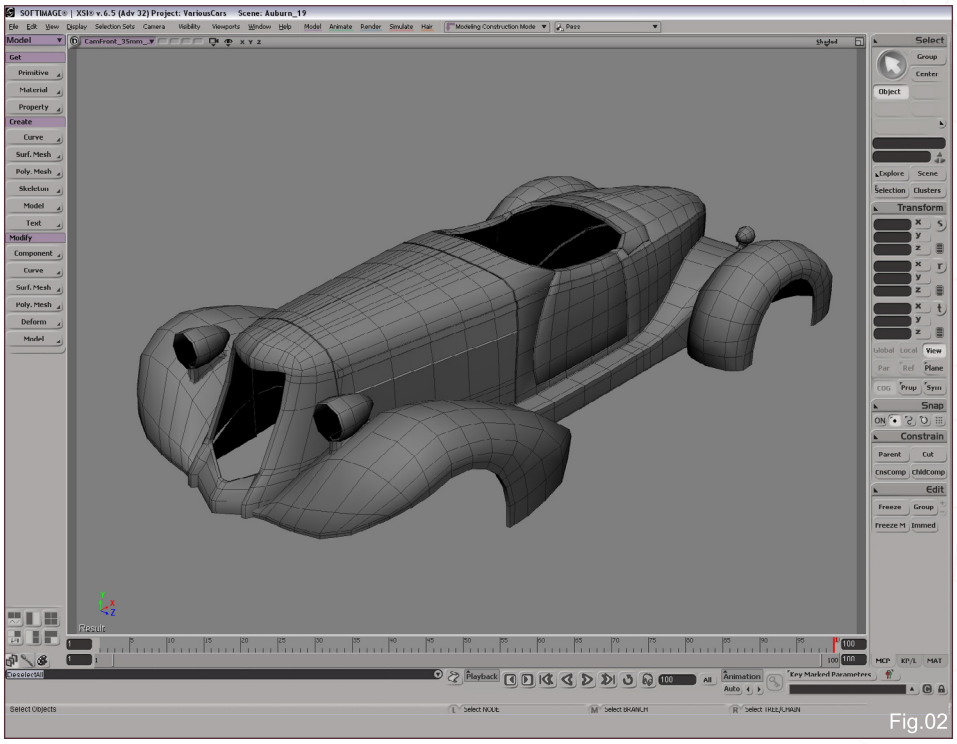
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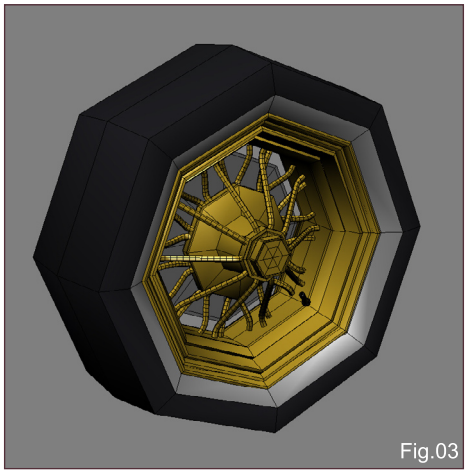
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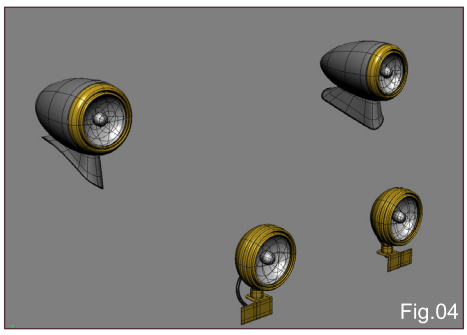
## Introduction

It's a great feeling to be able to create something that I will probably never be able to own or afford. At least this way I can still appreciate the curves, but unfortunately not the horse power. There's something about modelling in 3D… it might be referenced from somewhere (in my case), but at the end it's something you've put together yourself. Sometimes I get carried away and imagine the car racing along the open road, with me in it, dressed in the correct period wardrobe. I can't help thinking of *The Great Gatsby* in this case.


Fig.01


Fig.02


Fig.03


Fig.04

I'm not a big reader but this was one of the first connections I made with the Auburn.

Since modelling the Auburn I watched an *Indiana Jones* movie (not the latest one) and at the beginning there's a car chase where Indi is being escorted by "Shorty" in an Auburn. Having never seen this car before, it made quite an impact on me. I was motivated firstly by the uniqueness of the Auburn and secondly by the fact that it is an old vehicle – a classic! I suppose it's just the connection you make with something, not necessarily a thought out process.

I enjoy modelling cars in general, but the classics are just fascinating to me. They have a well-developed, distinguishable character

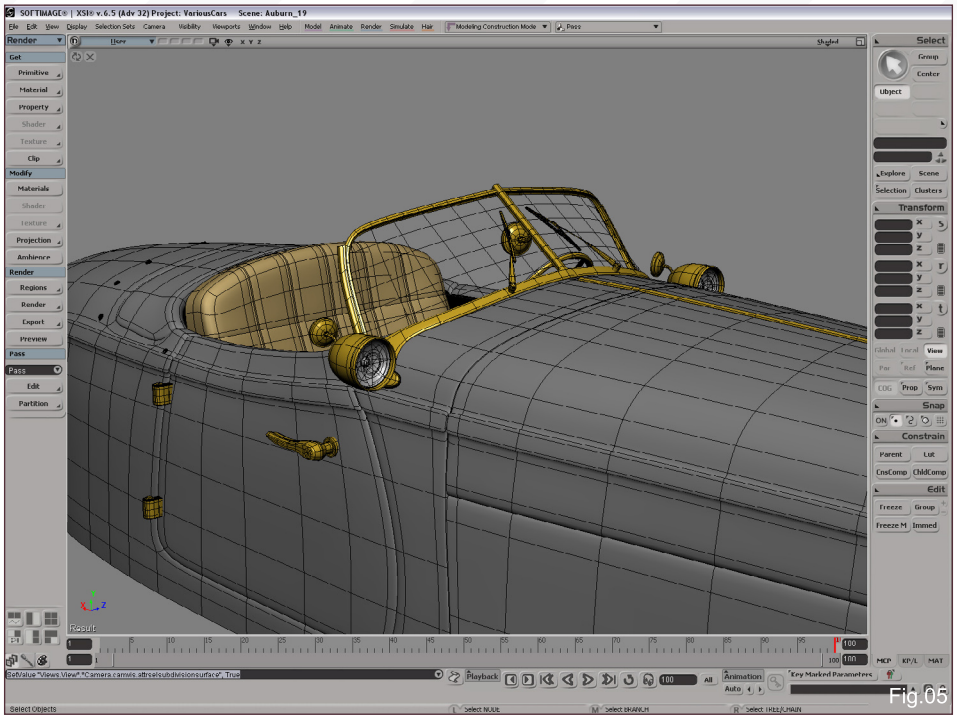
that most modern cars just don't have. There is always a historic story attached to a great classic, such as this one.

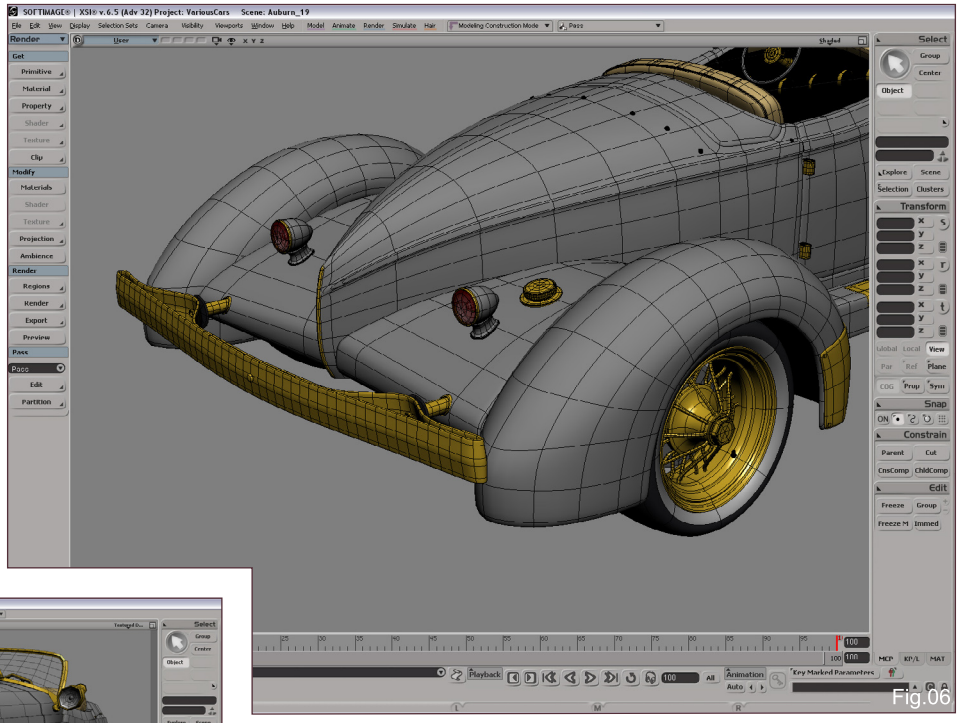
Here's an extract taken from www.cartype.com about the classic Auburn vehicle:

*Employing imaginative designers such as Alan Leamy and Gordon Buehrig, Cord built cars that became famous for their advanced engineering as well as their striking appearance, e.g., the 1928 Auburn Boattail Speedster, the Model J Duesenbergs, the 1935?37 Auburn Speedsters and the 810/812 Cords.*

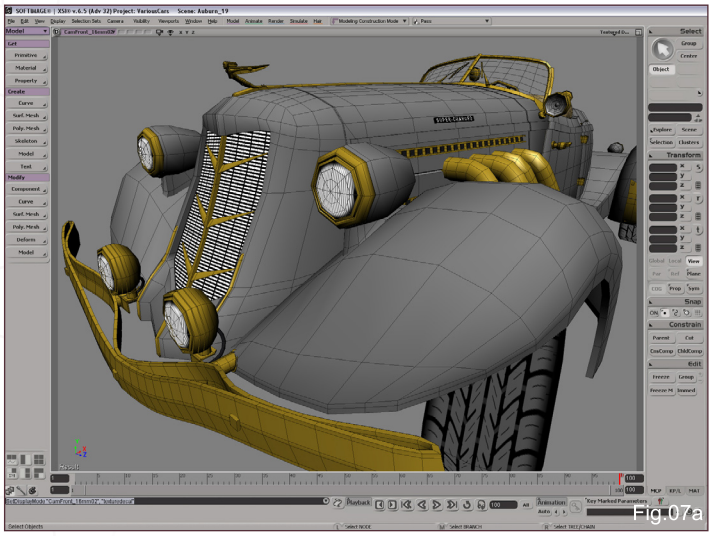
*Styling and engineering failed to overcome the fact that Cord's vehicles were too expensive for the Depression-era market and that Cord's stock manipulations would force him to give up control of his car companies. Under injunction from the U.S. Securities and Exchange Commission to refrain from further violations, Cord sold his shares in his automobile holding company. In 1937, production of Auburns, Cords and Duesenbergs ended.*

*The company's art deco headquarters in Auburn now houses the Auburn-Cord-Duesenberg Museum. It was made a National Historic Landmark in 2005.*

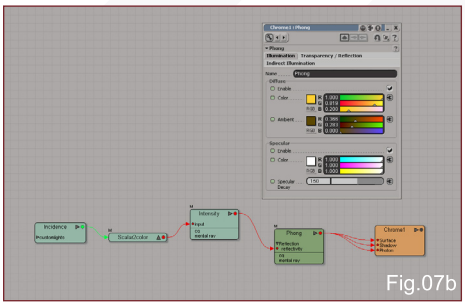

Fig.05


Fig.06

Within my career of animation/3D, my primary skill is as a character animator, but every so often I also like to model a car. I like the challenge of modelling cars because there is so much detail that can go into it; so much detail that can potentially translate into a beautiful render. Finding this car was by accident really, but when I first saw it I thought, "This is a good one."


Fig.07a

Getting into 3D was more of a dream for me, because of various factors in my life. But after studying graphic design and working for an advertising agency for some years, the opportunity rose for me to study 3D. I grabbed it with both hands and it's been an adventure ever since. My main aim is to work on an animated feature as a character animator. I may or may not


Fig.07b

enjoy the experience, because one sometimes creates an ideal image of the perfect working environment, but I would still like to experience it. For now I'm getting some great experience working where I am as a 3D generalist.

## Modelling

The first step with this piece was to get some reference pictures. Unfortunately, I was unable to find any blueprints so I found as many pictures of the Auburn from different angles as I could. The only snag to this process was that I found about three or four different variations of the car; fortunately though, the main differences were the trims/add-ons (headlights, wheels, etc.). Then in XSI I created some profile curves. I used the curves as guidelines, not to actually generate any geometry from, as I used polygons to model (cube, sphere) (**Fig.01** and **Fig.02**).

Once I had the basic shape of the car's body done, I went in and added the finer details

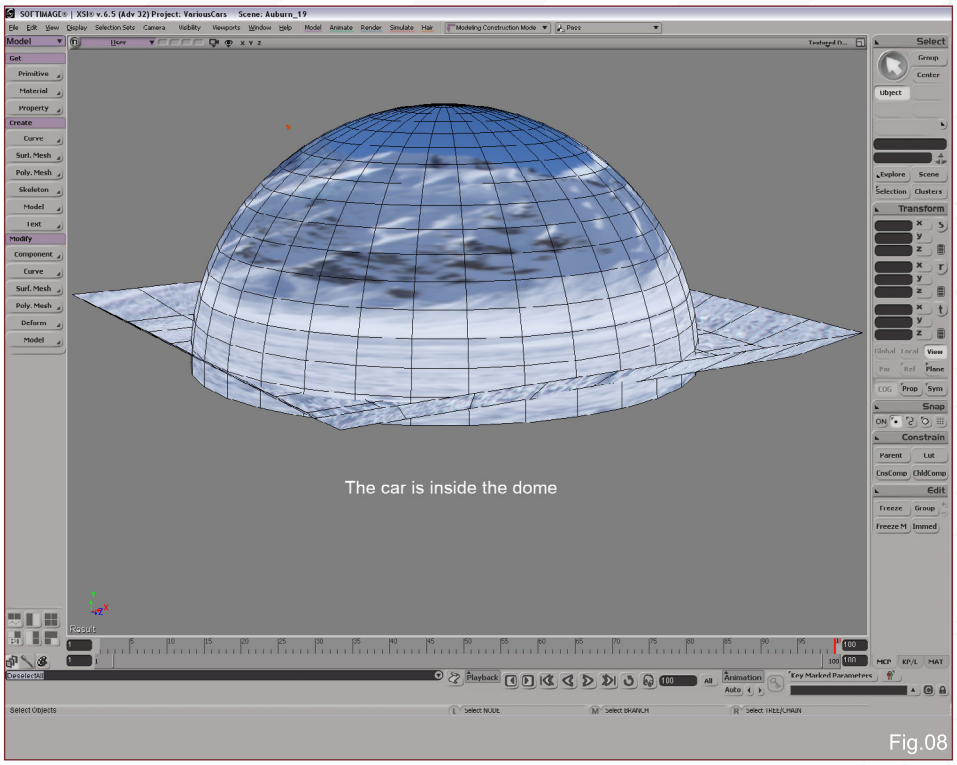
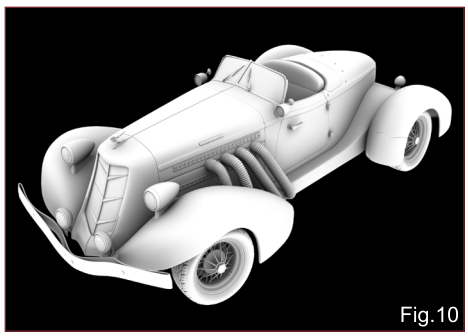
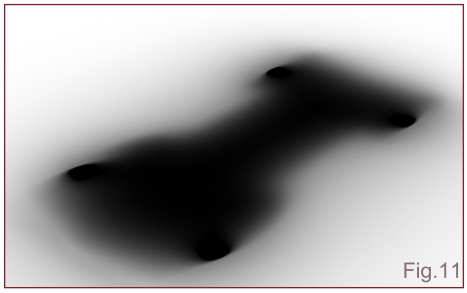


Fig.08


Fig.09


Fig.10


Fig.11

(creases and bevels). Some areas didn't look resolved to start with, but as I added detail and kept switching from subs (sub-divided/smoothed version) to hulls (low poly) it came together. That was the hard part!

All the extra bits that made up the finished car were modelled after that. The modelling was quite straight forward; it was just a matter of getting the curves and creases in the correct places (**Fig.03, Fig.04, Fig.05** and **Fig.06**).

The way I start a car model is by doing one complete wheel first (usually the front left one for some reason), then I build up the car's basic shape from there.

## Texturing and Lighting

I didn't go into too much detail here; most of the textures were procedural, nothing complex. To get the wheel tread I used a displacement map. I used the same procedure to create the



Fig.12

headlights and the four pipes that come out the side of the car. For the front grill mesh I used an alpha matte to cut the shape out (**Fig.07a**).

For all the chrome material I used a phong, and then plugged in an incidence node into the reflectivity of the phong so that the yellow colour came through on the fall off areas (**Fig.07b**).

I used "Final Gather" with an image to light my scene; I relied heavily on the image to light my scene. I then added a further spotlight to backlight the car, plus one infinity light to illuminate the tyres (**Fig.08**).

## Compositing

I rendered one Colour pass (**Fig.09**) and one Ambient Occlusion pass (**Fig.10**) for the car, and a further Ambient Occlusion pass (**Fig.11**) for the floor. I had no shadows that were cast on the floor; I relied on the floor's Ambient Occlusion pass for that. I brought all three layers into Nuke and did a simple comp. I didn't add any other layers or do any effects to the final image (**Fig.12, Fig.13** and **Fig.14**). Finally, I used XSI to create the final image and Nuke to comp. it.

## Conclusion

I had fun modelling the Auburn; something a little different with loads of character. I hope to improve on the next model and maybe even put it into a scene with a driver wearing a scarf, flapping in the wind!

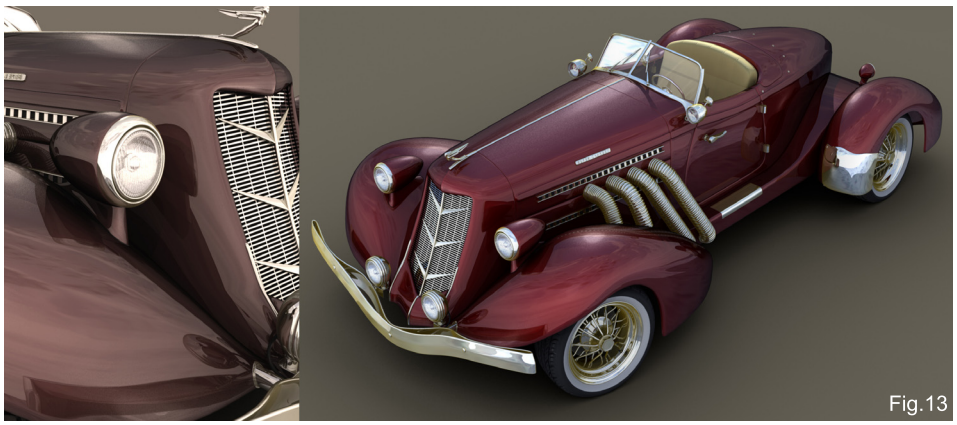
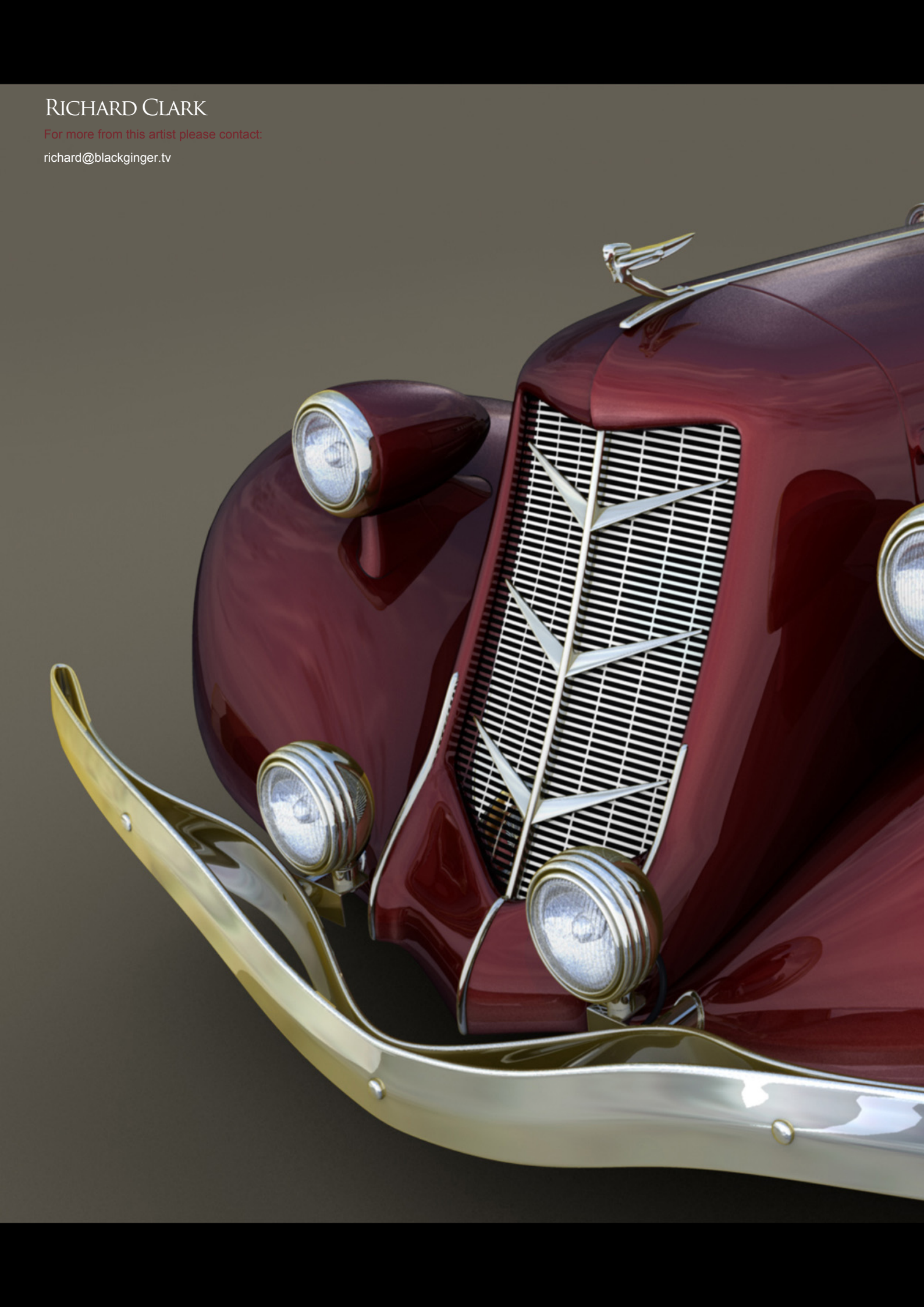


Fig.13

# Richard Clark

For more from this artist please contact:

richard@blackginger.tv

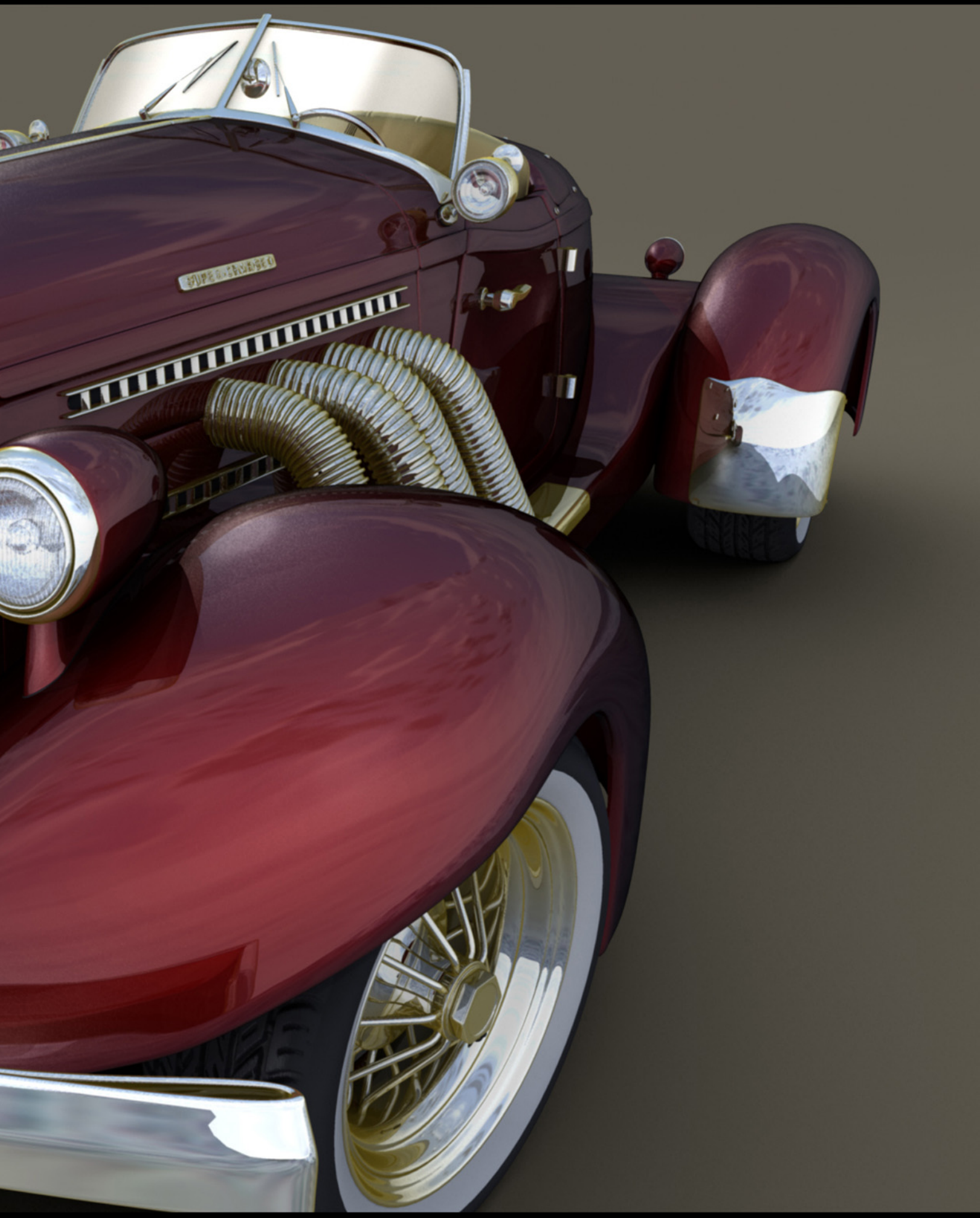
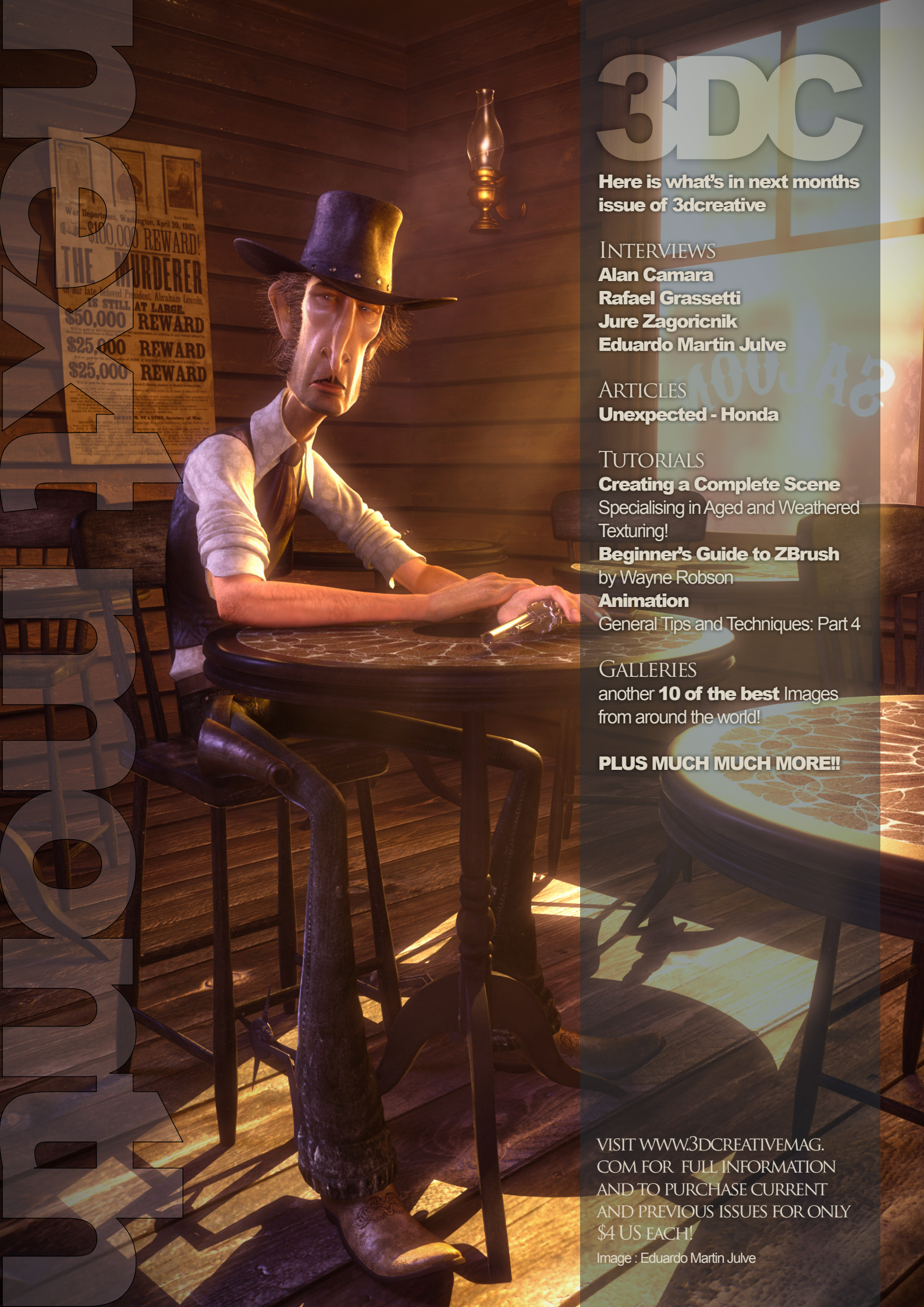


Fig.14


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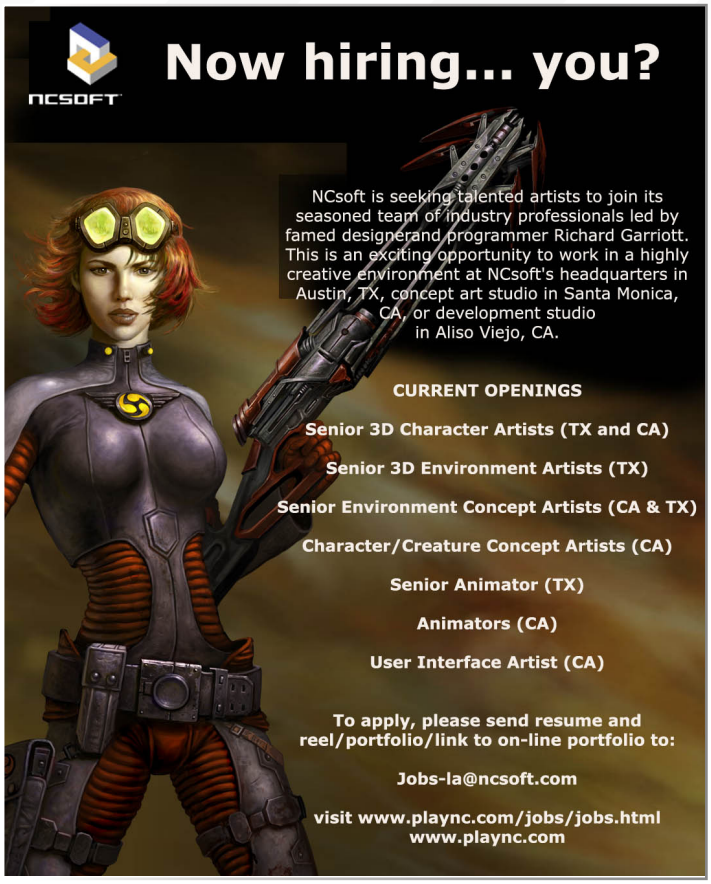
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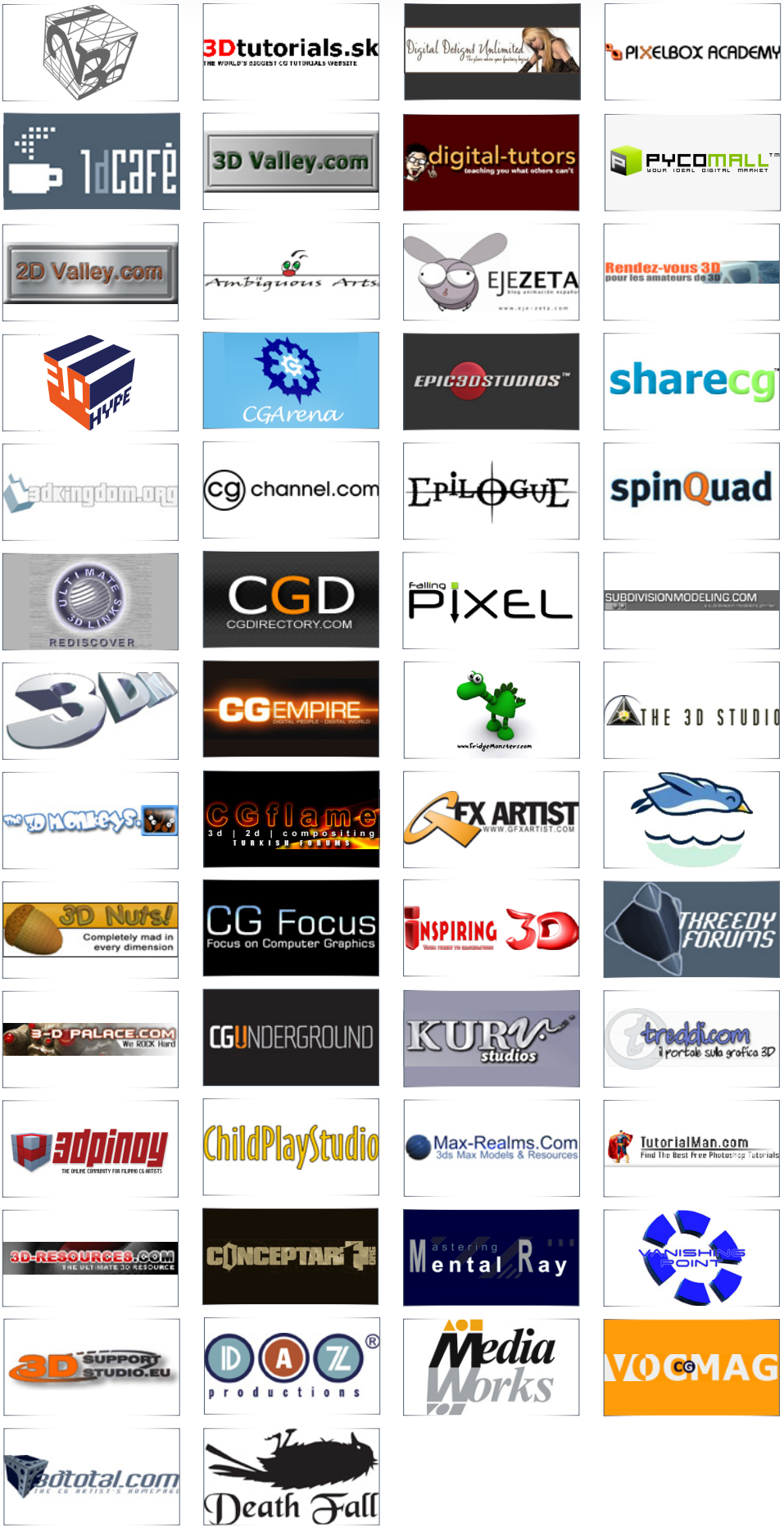
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# low poly game character

Downloadable Tutorial EBook

## Introduction:

The original character of the Swordmaster was created by Seong-wha Jeong and we had 3DTotal's in-house 3d artist Richard Tilbury, re-create the character in 3dsmax as well as create the textures in Photoshop, in our new precise, step-by-step tutorial for highly polished, low polygon game character with detailed texturing for real-time rendering. We have also converted the tutorials into Cinema 4D, Maya, Lightwave and Softimage platforms. Even if you are not a user of one of them, the principles should be easily followed in nearly all other 3D applications.

The Swordmaster tutorials is spread over 8 Chapters which outline, in detail, the process for creating the Swordmaster below are the details.






Chapter 1: Modelling the Head
Chapter 2: Modelling the Torso
Chapter 3: Modelling the Arms & Legs
Chapter 4: Modelling the Clothing & Hair
Chapter 5: Modelling the Armour
Chapter 6: Mapping & Unwrapping
Chapter 7: Texturing the Skin & Body
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# Bugatti Veyron
## car modelling series

3ds max

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This series aims to offer a comprehensive guide for creating a finished car to people who are new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but they do endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 031 March 2008
MODELLING THE CHASSIS - DETAILS

Issue 032 April 2008
WHEELS, TYRES & RIMS

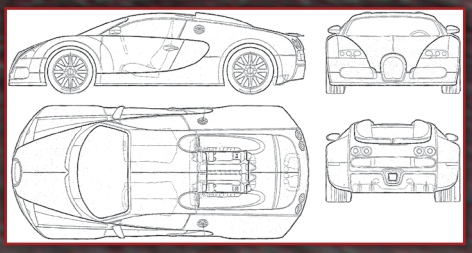
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# BUGATTI VEYRON
## PART 7 : LIGHTING SET UP & RENDER

This is the final part of our tutorial series, where we will be covering the rendering and lighting process. In the earlier parts of this tutorial we covered the modelling steps and the materials that we will be using for this final stage. If you haven't read the previous tutorials, you can test for the car paint material with a simple shellac material, as shown in **Fig.01**.

This is a V-Ray material. If you're using Mental Ray you can use the car paint material; for the chrome material just use a black diffuse material with full reflectivity.

I will be using V-Ray to render the car in a studio environment, but the same principles apply to any renderer or software and, as you will see, it's all very simple!

OK, so before you do anything or start up Max, Google yourself some reference images. Find as many reference photos as you can! You can even see if you can grab a book which contains car photos, as these books and albums usually have very good professional photos in them (and will also give your eyes a rest away from the monitor). Please note that some of the references you are going to find may actually be 3d renders or heavily retouched images – it's not always easy to tell, but as long as the images look pleasing to the eye then you can still learn from them (**Fig.02**).

Take your time whilst looking at reference images and try to understand how the reflections on these cars are actually formed and what appears. I know to some of you this might sound as though you'll be wasting your time without doing anything productive, but from my experience taking the extra time to look at and understand reference images saves you a lot of the time when you finish your renders, as

Fig 01

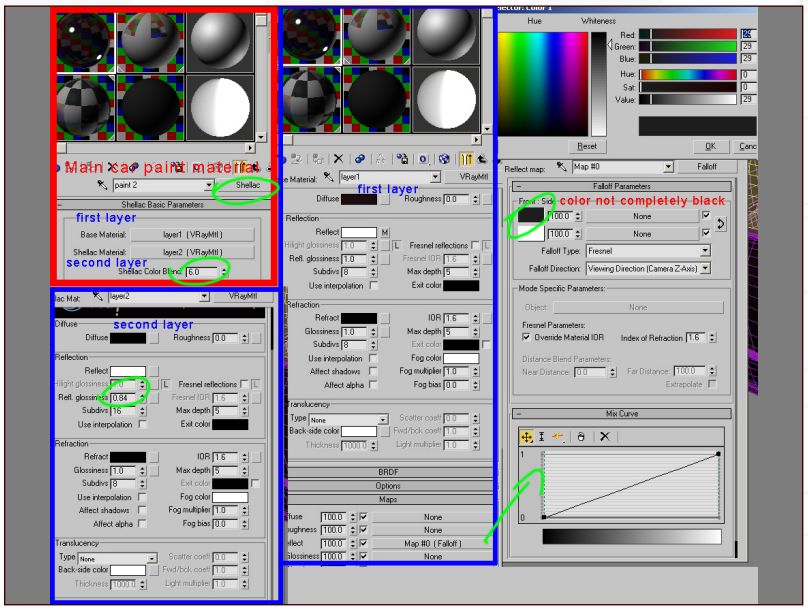



Fig 02



Fig 03



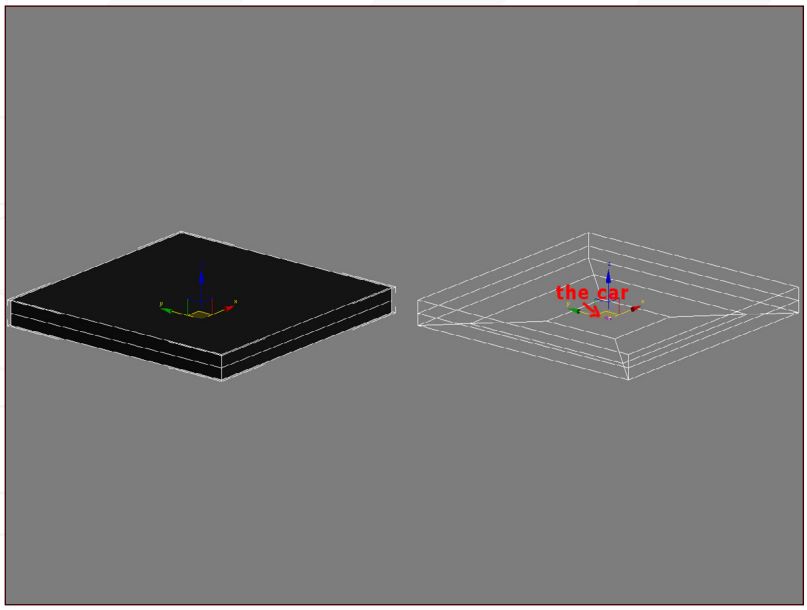



Fig 04

you will be able to quickly understand what's wrong with your images, rather than getting a render quickly and spending an eternity pondering over why it doesn't look good!

Rendering a car inside a studio environment is a bit different from rendering an exterior scene or a car with a quick exterior HDRI. You have to take careful consideration of the objects you use to reflect on the car body and generate the lighting. We are going to use boxes, or any other objects which basically emit light and reflect on the cars, to get the same sort of reflections we see in real photos of cars taken inside a studio.

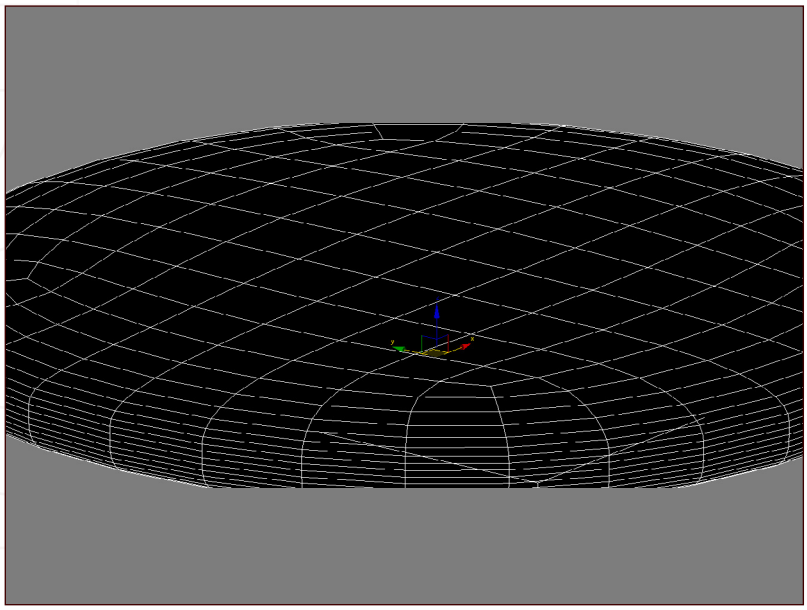


Fig 05

Here is an example (reference photo) of a real studio which they take car photos in (**Fig.03**). As you can see, they also use boxes and similar objects in their photographic setups (or, to be more precise, we use boxes just like they do!).

OK so let's get back to the 3d work now! Create a big sphere or object that you will have your car inside of. This object is going to be used to scatter and diffuse light off of your light sources in the scene, or if you want to understand this in another way then it's just like in a real studio where the empty space doesn't extend to infinity but is closed at some point (or you can just consider it as the background).

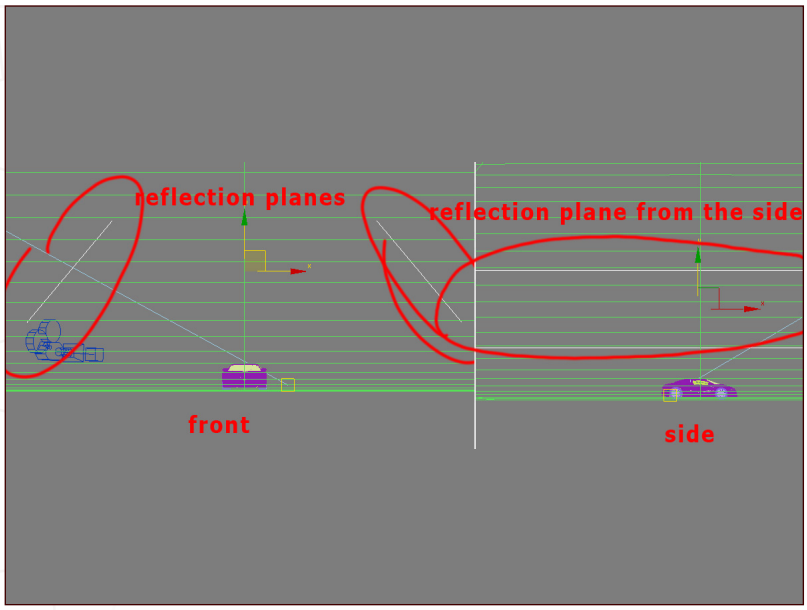



Fig 06

I simply created a box and added a couple of edge loops, flipped the normal and then added a meshsmooth (**Fig.04** and **Fig.05**).

The size and shape of this object or sphere which the car is inside of can vary to your needs and you can change it as you like. Give this object a standard V-Ray material with a dark colour (we don't have to be very accurate on this one).

We now just need to add the reflective panels which will emit light as well, so that we won't even need any light sources (**Fig.06** and **Fig.07**). These are simply 2 giant planes, or boxes, and you can experiment with them as

much as you want; rotating them, or making them bigger or smaller, will give you different effects. We will add a V-Ray light material to the boxes or planes we've created, to make them emit light in the same way as an area light.

Apply the VRayLightMtl and make sure you have your indirect illumination on, with default lights off in the V-Ray Global swatches. I enabled the built-in V-Ray frame buffer as well, from the V-Ray frame buffer tap. Keep the V-Ray environment at its default settings since we will be getting all of our reflection and lighting information from the scene that we have just created (**Fig.08** and **Fig.09**).

If you haven't already, don't forget to un-tick 'visible to camera' in the object properties of the reflection planes, as we want them to light the scene and reflect but not be seen by the camera. The multiplier of the colour in the VRayLightMtl depends on your scene; feel free to test as you like and then test render your car (**Fig.10**).

Hopefully you will get something similar to me. As you can see, our render is still not final; the lighting that the reflection planes are making is too strong and too sharp.

In the references that we have gathered, we can see that there is some sort of transition and fading in and out of the white reflection on the cars. We can try to achieve this with a gradient ramp on the diffuse of the VrayLightMtl (**Fig.11a and Fig.11b**).

After rendering you will notice that the render is better, but dark. You can solve this by increasing the lighting in your scene, adding lights, or increasing the multiplier value. Or you can use the quick colour curves correction in the V-Ray frame buffer, which I decided to use here (**Fig.12 and Fig.13**).

As you can see, after adjusting the curves a little we have an image with more detail which we can now simply take into Photoshop, adjust the

Fig 07

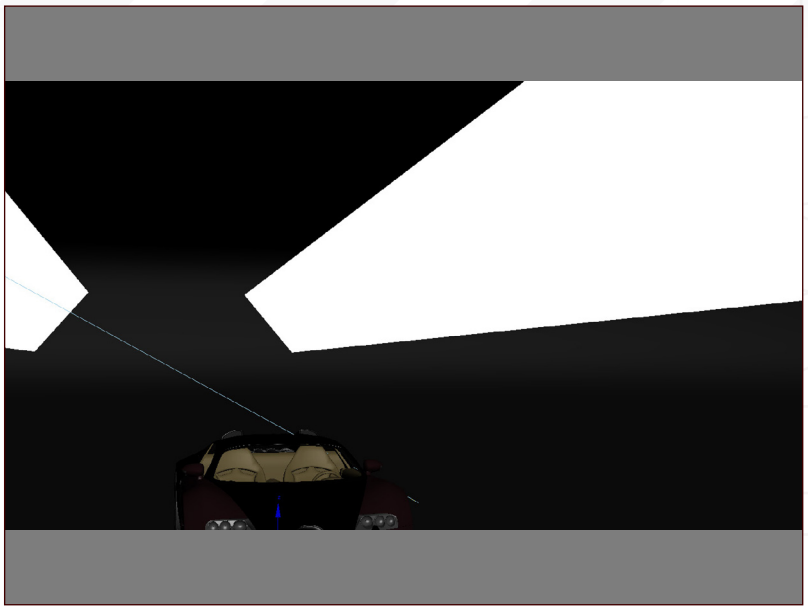


Fig 08

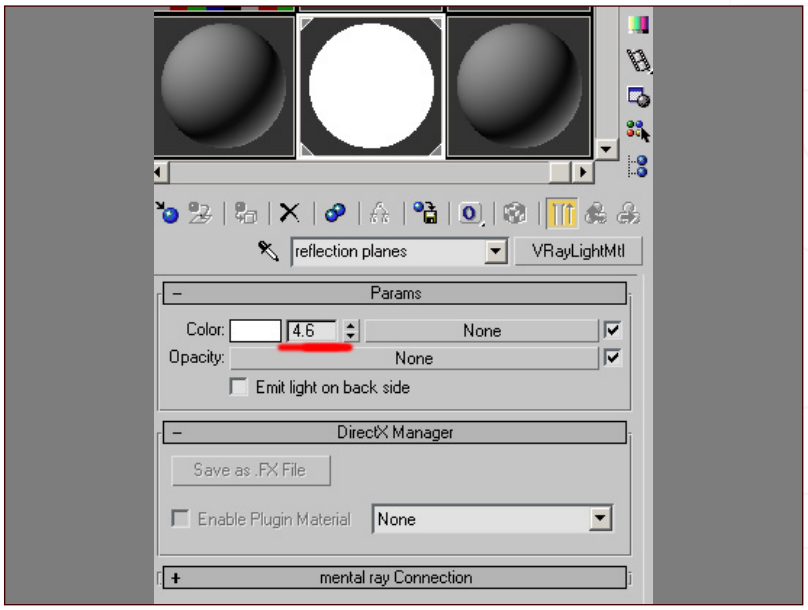



Fig 09

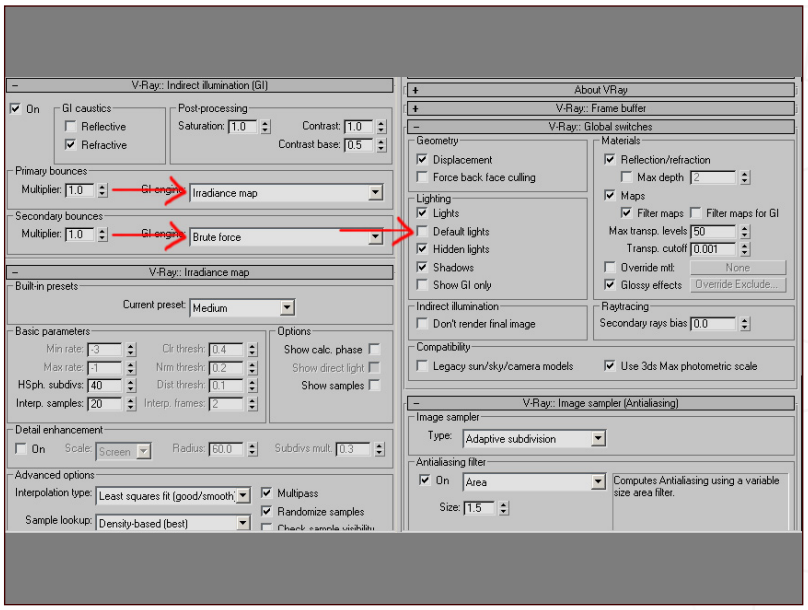




Fig 10

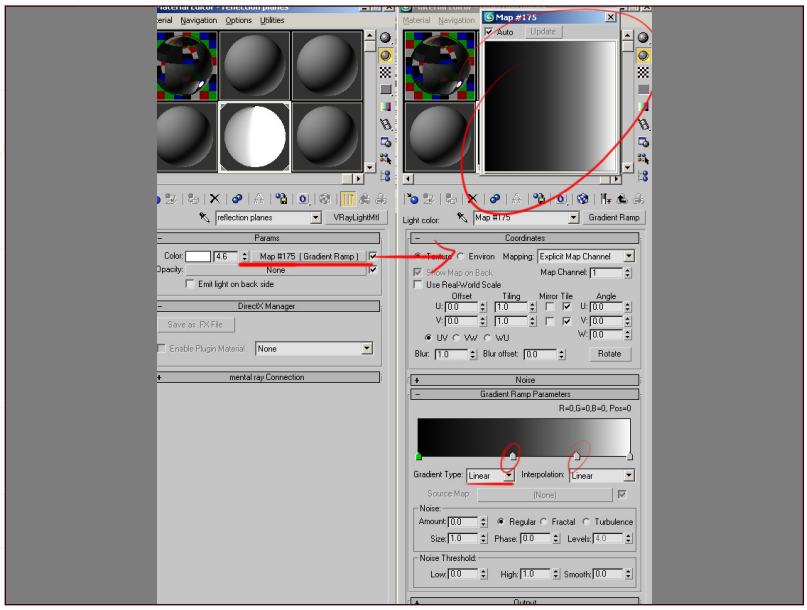


Fig 11

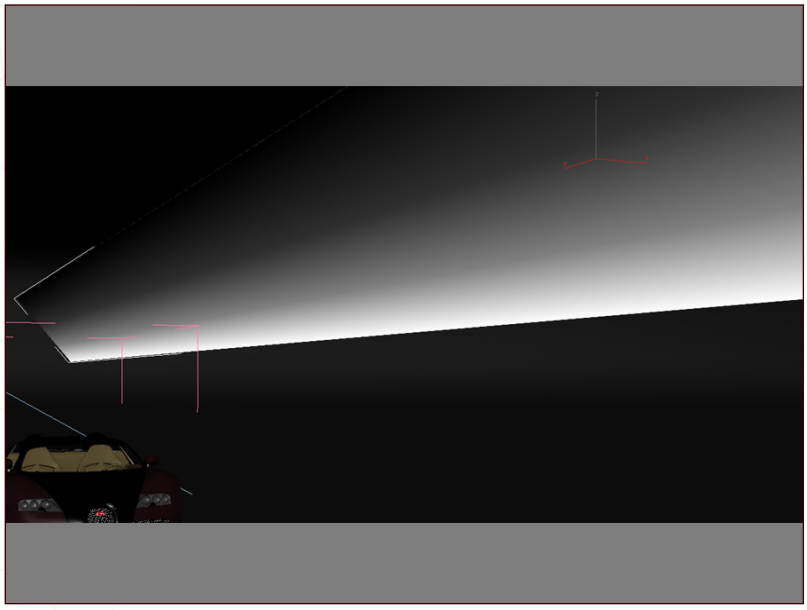


Fig 12

Levels, and have all that we need (**Fig.14**)!

**Note:** Because we are using a gradient map in the diffuse slot you may get some artefacts when rendering, especially if you have a white background because you will have a black diffuse reflecting on the car and your overall background which you created might be brighter, which will make it look like a sharp edge. Never mind my bad explanation, just remember you can try to use the opacity slot in VRayLighMtl, but be careful as I have experienced some glitches when using it (**Fig.15**).

Well, that's pretty much it for doing a studio render inside V-Ray! If you are rendering the car in Mental Ray you will be using the same principles, but instead of using 2 giant planes or boxes with VRayLightMtl you can instead use the Area Free light, or the Area Target light in the photometric lights, and adjust the settings. If you're doing this, don't forget to use the logarithmic exposure control in the environment tab! You can also use 2 giant boxes, but instead give them a white material with a 100% self-illumination and then tweak the results in Photoshop (**Fig.16**).

## Conclusion

I decided to render the car in a studio render since I thought it would be slightly more interesting than quickly using an HDRI as a skylight and reflection.

Believe it or not, to get a really good image it's not just about having the same standard light setup and using it for every model; you have to change your setup depending on what background you have and what car model or colour, and even changing the camera angle or image composition might require you to change some of the setup details. So just keep playing around with it until you are happy with the details, remembering that you can always use Photoshop and maybe render some different layers to improve your results (no it's

not cheating – even for animation you would be doing the same in your compositing software!).

It's good to mention also that usually, in my normal practice, I render out many layers (different parts' masks, AO, specular, etc...), use the EXR format, do a lot of work in Photoshop, and bake some of my scene data to speed render times if I am doing an animation, but for this tutorial I wanted to focus on the basics so that you wouldn't get side-tracked.

Here is a summary of the recipe of a studio car render which, by the way, a lot of the great 3d artists out there can accomplish without any GI, using standard renderers and compositing them in Photoshop with the same tools that you could get many years ago:

- Have a really good car model (yes, a lot of the time bad model topology can lead to bad renders!).

- Use a car paint material which has more than one layer, or reflects one undistorted reflection and another blurred.

- Put the car inside a huge, smooth hemisphere of some sort.

- Place a couple, more or less, of boxes or planes that are almost infinitely long and that will produce bright light and reflection.

- Composite the result or modify it in Photoshop until you are satisfied with it on a per image or shot basis.

And with this we reach our final tutorial part which will wrap up this series. I really hope that we have managed to provide useful information that you can use in your work. Cheers!

Fig 13



Fig 14

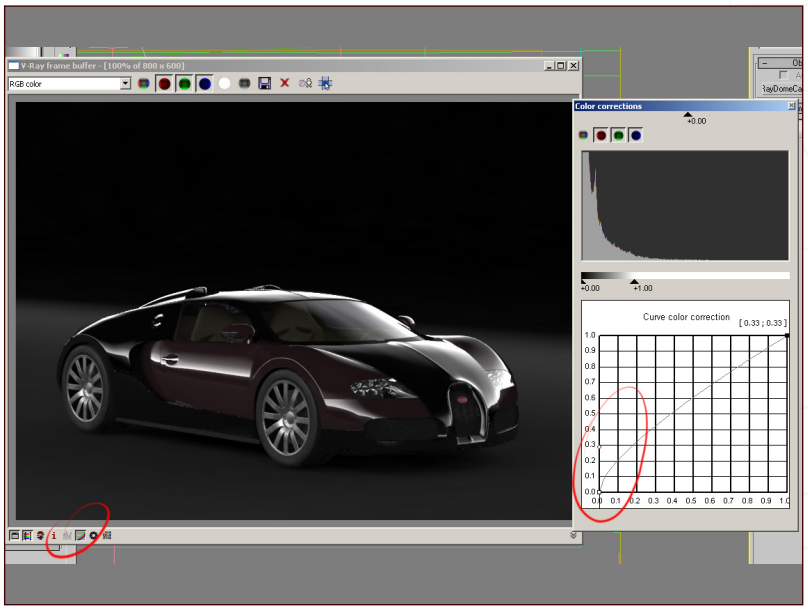
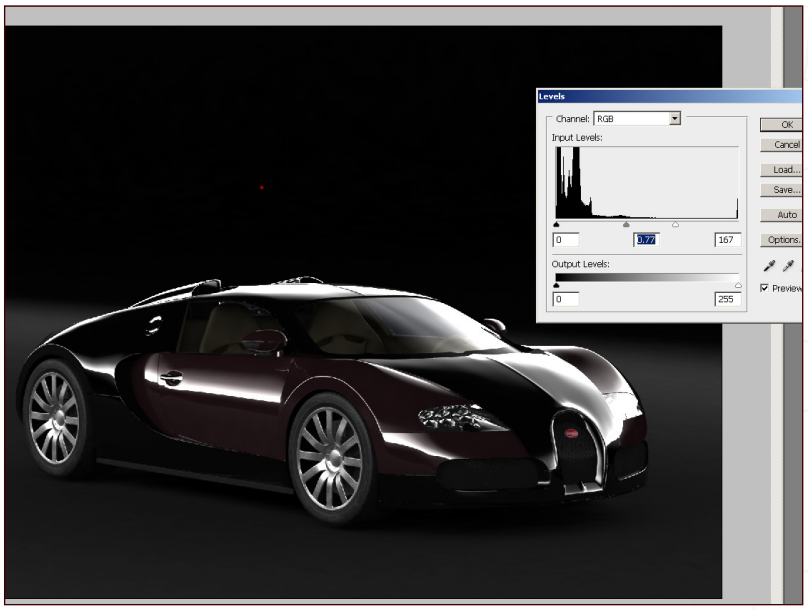



Fig 15



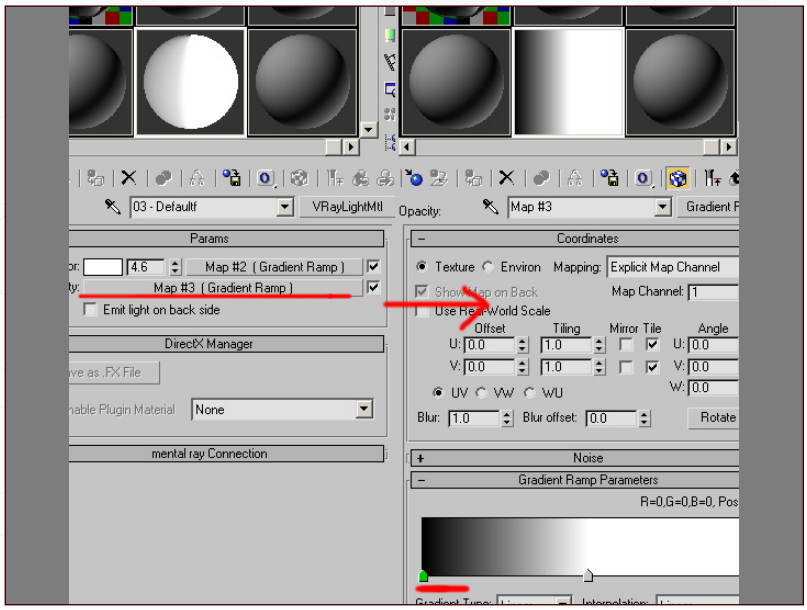



Fig 16

# BUGATTI VEYRON
## PART 7 : LIGHTING SET UP & RENDER

Tutorial by:
ALI ISMAIL
For more from this artist visit:
www.aliismail.com
Or contact them:
ali@aliismail.com

Fig 17



# Eva Wild

## Female Characters Creation

### Introduction:

The 'Eva Wild Series' – Our aim in this series is to provide comprehensive lessons to produce a complete fully rigged, textured and anatomically correct female character. This series fits well into 3 DVDs with 3 separate professional 3ds Max instructors taking you through each if their specialties in very detailed step by step processes making this training suitable for artists of all levels.



### Part 1 - Modelling:

- Complete step by step modelling of the Eva Wild character.
- Teaches the importance of studying human anatomy.
- Provides clear diagrams showing muscle flow and bone structure.
- 14 hours of comprehensive training.
- Suitable for artist of all levels.



### Part 2 - Texturing, Mapping & Clothing:

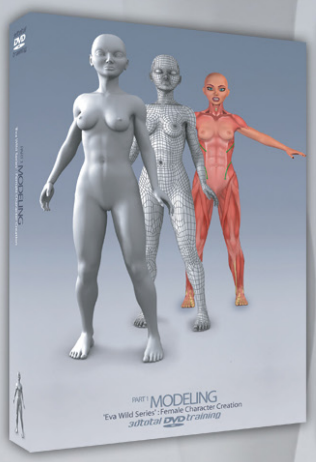
- Complete step by step texturing process of the Eva Wild character.
- Modelling and Texturing of Eva Wild garments.
- Lighting the character.
- 4 hours and 47 mins of comprehensive training.
- Suitable for artist of all levels.

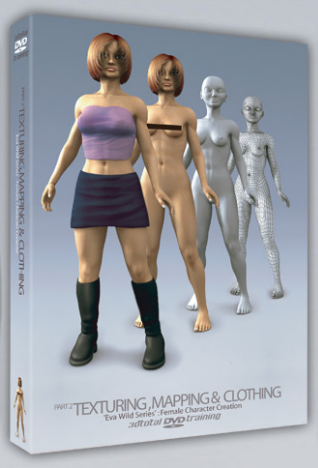


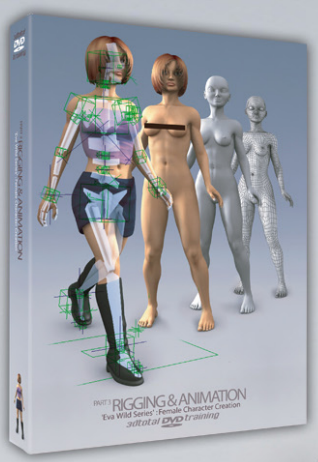
### Part 3 - Rigging & Animation

- Complete step by step of setting up a fully animatable rig for the Eva Wild character.
- Creating a walk Cycle.
- Creating a simple face morph.
- 7 hours and 43 mins of comprehensive training.
- Suitable for artist of all levels.






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# Bugatti Veyron
## car modelling series

The series will cover an in-depth and comprehensive guide to modelling the amazing Bugatti Veyron car, from start to finish. We will focus on the key techniques and stages involved in building the chassis, as well as details such as the windows, lights, vents, petrol caps, engine parts and so on. The series will then move on to creating the wheels, including tyres and hubcaps, before going on to building and incorporating an interior, namely the dashboard and seating. This will be followed by a section on creating and applying materials for the numerous parts of the car, such as the paint work, chrome, rubber and glass, before concluding with a tutorial devoted to setting the scene for a finished render. The final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.

This series aims to offer a comprehensive guide for creating a finished car to people who are new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but they do endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 031 March 2008
MODELLING THE CHASSIS - DETAILS

Issue 032 April 2008
WHEELS, TYRES & RIMS

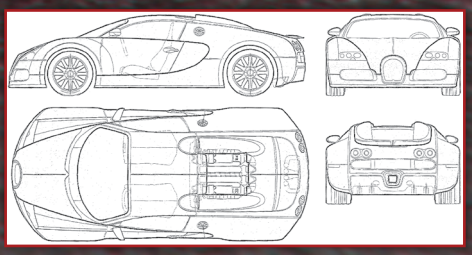
Issue 033 May 2008
INTERIOR

Issue 034 June 2008
THE MATERIALS & FINISHES

Issue 035 July 2008
LIGHTING SET UP & RENDER

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Blueprints are available here:



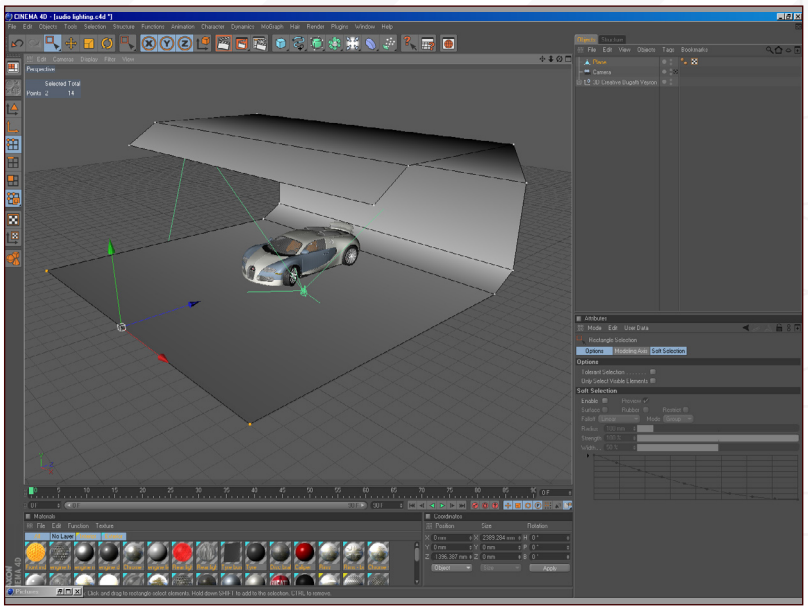
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# BUGATTI VEYRON
## PART 7 : LIGHTING SET UP & RENDER

In this section, the last of the seven tutorials, I will be covering how to set up the lighting and rendering of the beautiful Bugatti Veyron. First I will show you how to make a studio setup, and then how to composite the car in a warehouse scene.

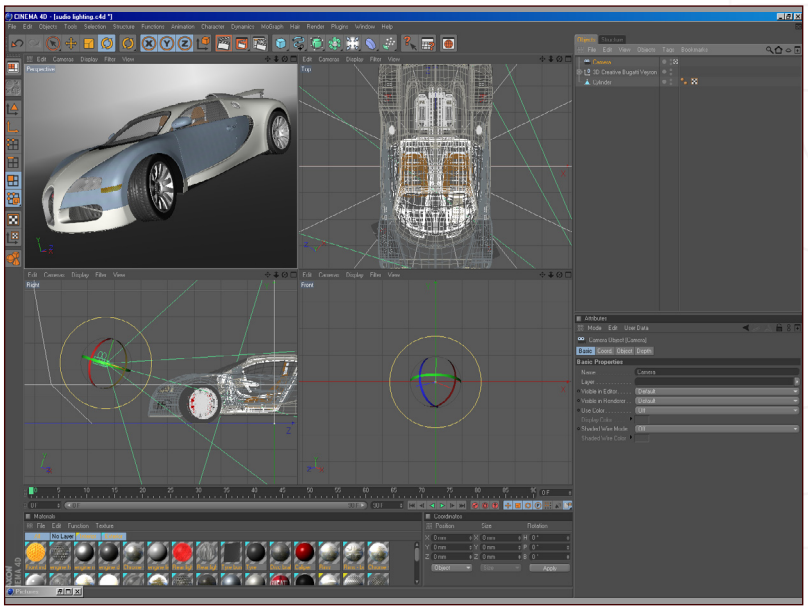
First I separate the front wheel from the symmetry object as I want to turn the wheels by 25 degrees. Remember to copy the wheel for the other side. Now add a plane to the scene with 1 height segment and 6 width segments, and manipulate it to form the shape, as shown (**Fig.01**).

Fig 01



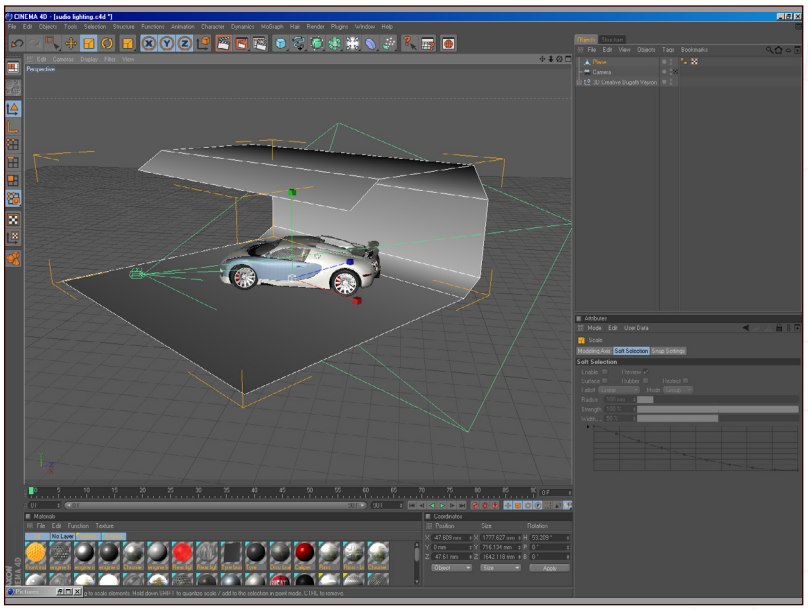
Now position the car in the perspective view, roughly where you would like it, and add a camera. The camera should mimic the location of the perspective view – switch to it and rotate it to give a more dynamic angle (**Fig.02**).

Fig 02



Now with the camera setup we need to minimise the size of the stage, as this will impact on our render times. So begin to scale down the stage until the edges just run out of view of the camera. **Note:** the smaller the stage, the quicker the final render will be (**Fig.03**).

Fig 03



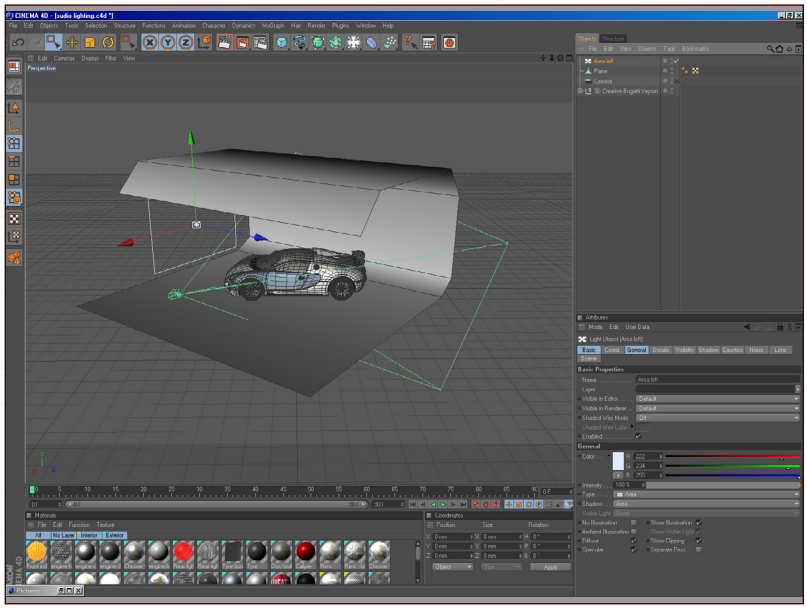


Fig 04

Add an area light to the left side of the stage and use the settings shown to create the blue tint (**Fig.04**).

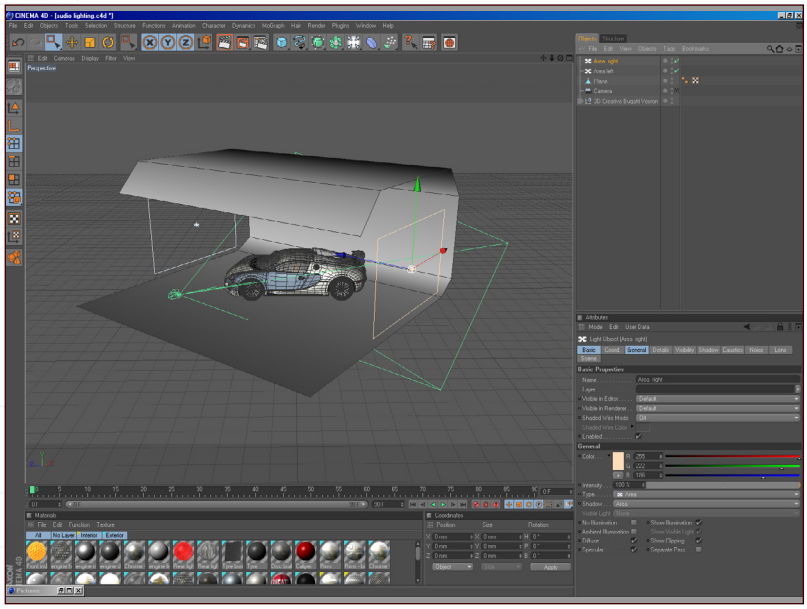


Fig 05

Do the same again for the right area light, but this time make the tint a yellow/orange colour. Both lights have the area shadows turned on and set to default parameters; you could lower the accuracy if you want to in order speed up the render time (**Fig.05**).

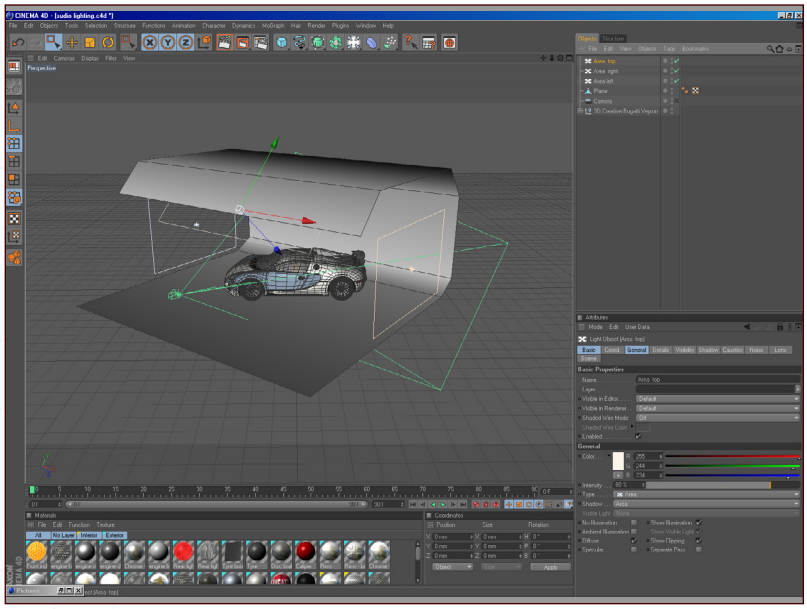
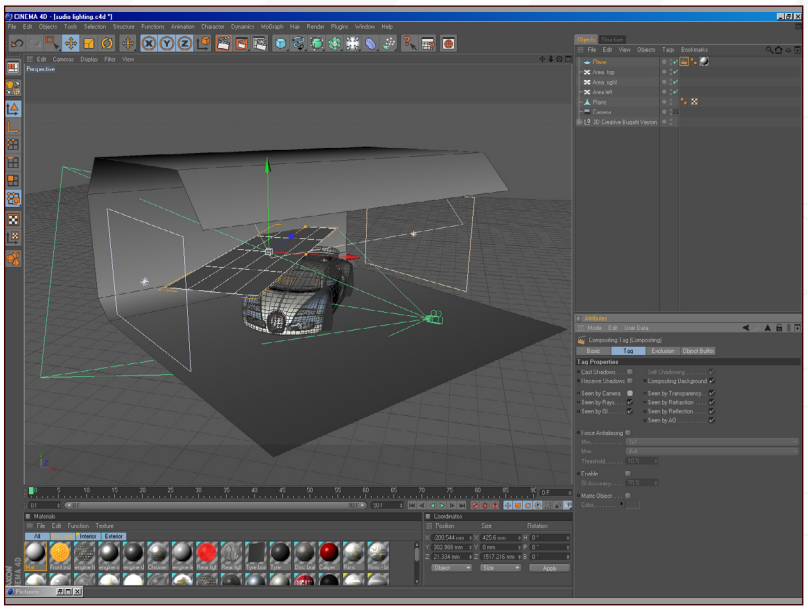


Fig 06

The main light, or front light as I've called it, has the specular checkbox un-ticked, as I don't want it giving me a harsh highlight in the centre of my image. That's the beauty of 3d: you can cheat against the real thing (**Fig.06**)!

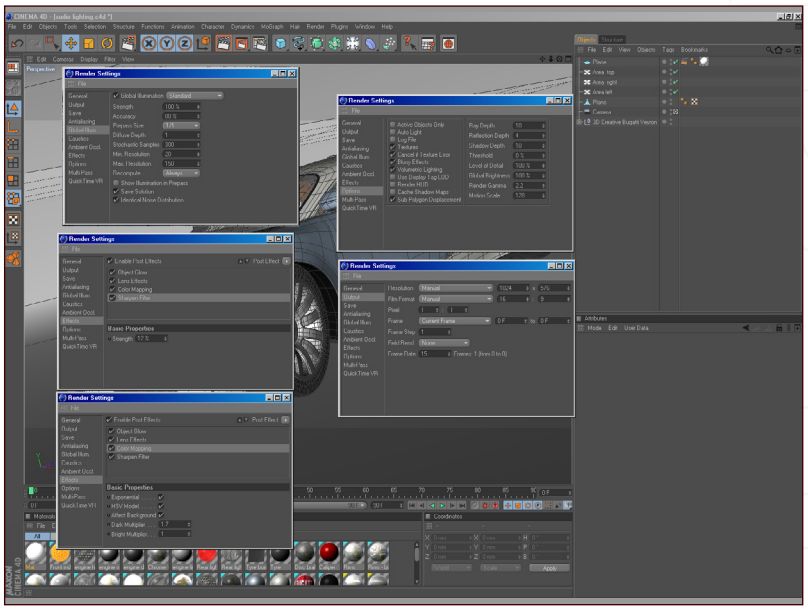
The last thing we need to do in the scene is to add a plane and place it above the car. This plane will give us a long reflective highlight down the car and will help to define the body panels. Create a white material with a 50% luminance channel and turn off specular. Apply this to the plane and also add a compositing tag with the parameters shown (**Fig.07**).

Fig 07



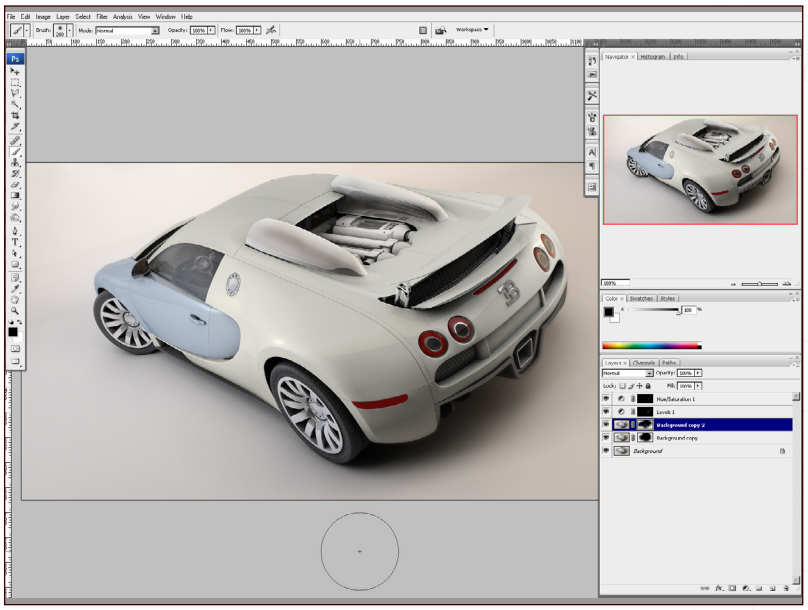
Now, for the render settings I'm not going to tell you what each parameter does as I'll be here for weeks, but the most important parts are as follows. If you're using global illumination then you must always turn off auto lighting in the options menu. The higher the values you have for the GI samples, the better the image, but there is a trade off with time and I have optimised mine for reasonable quality and speed. I have enabled a few effects, notably the colour mapping option as this can do amazing things; what it does is tones down the over-exposed areas and brightens the darker areas to give an even colour to the image (**Fig.08**).

Fig 08



Click render and go and make yourself a cup of tea or watch the football, as this will take a minimum of an hour depending on the speed of your machine! Once rendered, "You should have something like this, which I made earlier!" (I've always wanted to say that, and "sticky back plastic"; anyone who hasn't seen Blue Peter then this will have gone over your head – sorry!).

Fig 09



Now I've opened up the image in Photoshop to make some final tweaks. Notice that the colour of the rear lights hasn't come out that great; I think this is possibly down to the glass material above. It's easy to rectify this in Photoshop and saves waiting another hour plus! Add a

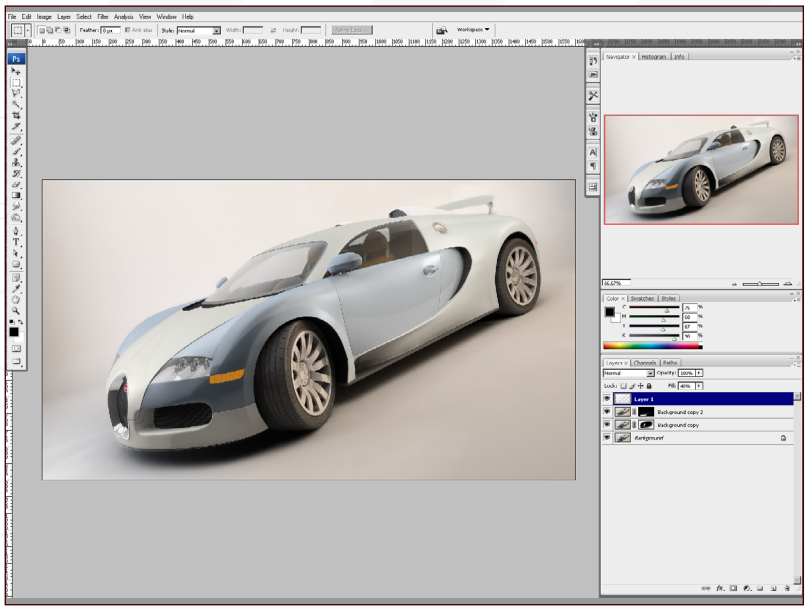


Fig 10

Hue/Saturation adjustment layer and a Levels adjustment; these will need to be masked just around the lights. Adjust them until you get the colour required. And that's it for the studio setup! It's reasonably easy to set up and you can achieve some amazing results (**Fig09** and **Fig.10**)!

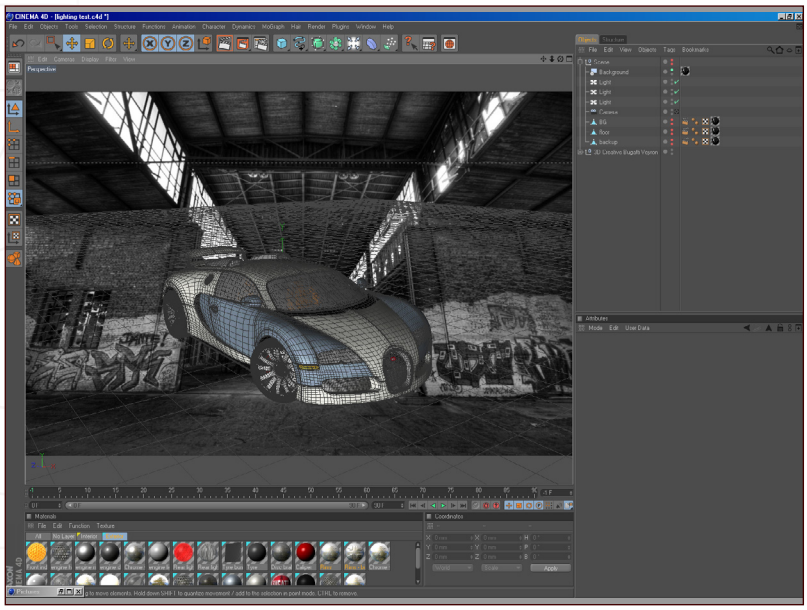


Fig 11

Let's now try and composite the Bugatti into a scene. For this I have chosen a warehouse image. You could make life a lot easier by buying background packs, such as the ones supplied by Dosch, and you could utilise the HDR images for lighting to save mimicking the lighting in the image. The first thing is to setup the car in the right position and add the image to a background object. Make sure the render output settings match the size of the background image (**Fig.11**).

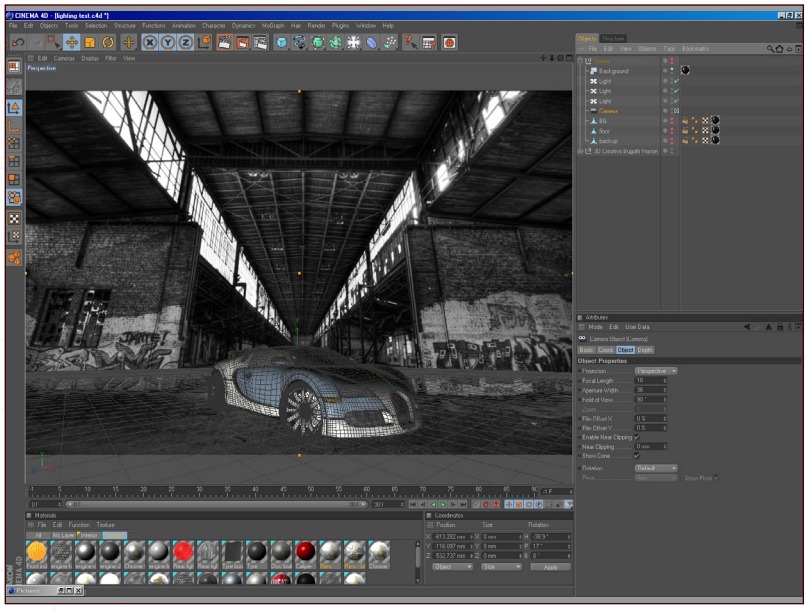
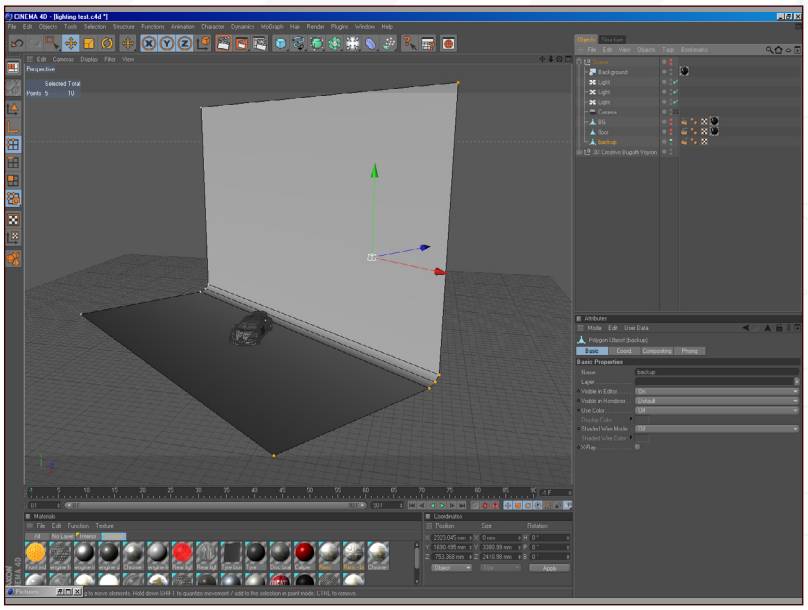


Fig 12

Angle the camera to align the horizon of the viewport with the image on the background. Add in a cube and place it where the ceiling is in the image to help work out the camera focal length, or simply use the values shown (**Fig.12**).

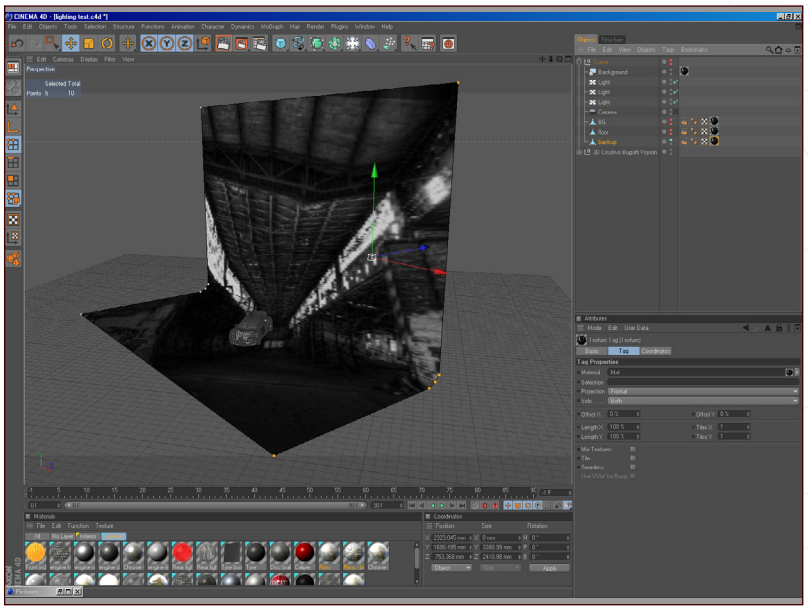
It's now time to add the "stage", which is basically a collapsed plane. Make sure it's large enough to cover the full camera view (**Fig.13**).

Fig 13



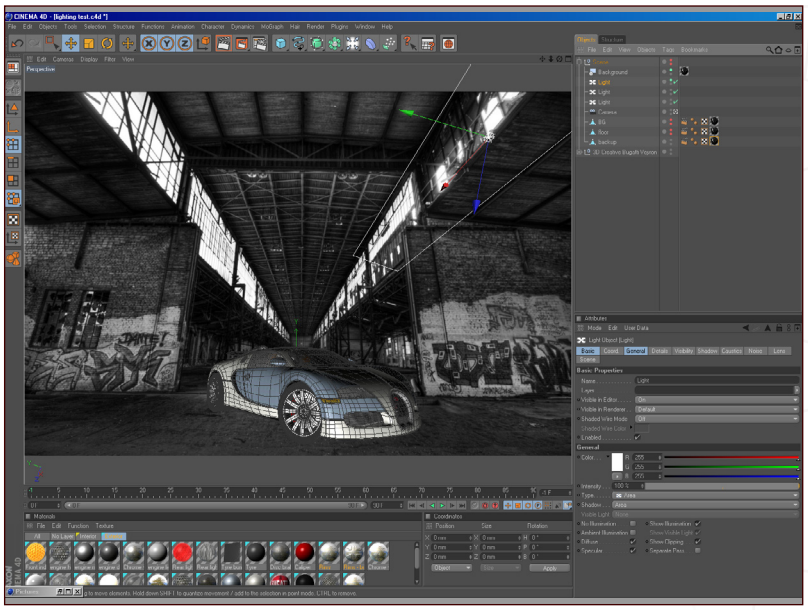
Now add the background image to the stage with a frontal mapping. This will make the image fill the viewport no matter what angle you look at it (**Fig.14**).

Fig 14



Add in an area light to the scene and place it above the car, roughly in line with the windows in the background image. The light has area shadows turned on with the standard values (**Fig.15**).

Fig 15



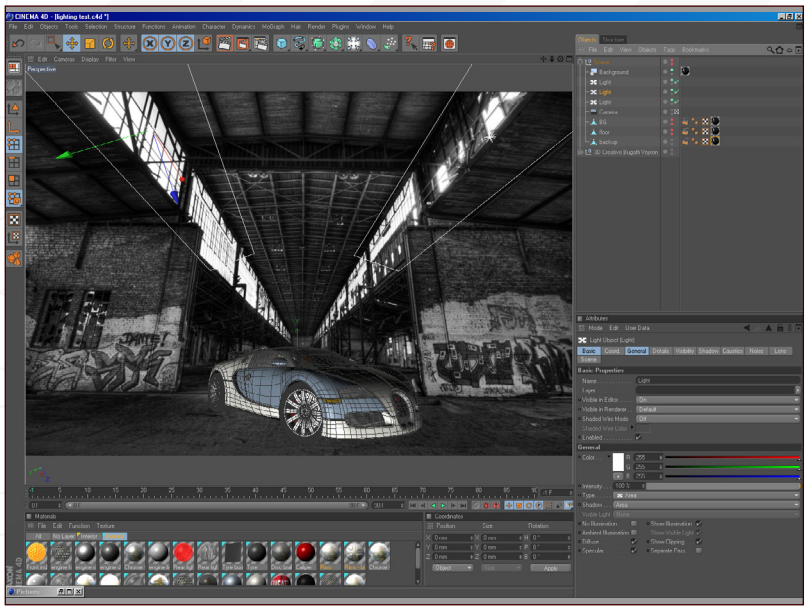


Fig 16

For the other side, just copy the area light over and position it accordingly (**Fig.16**).

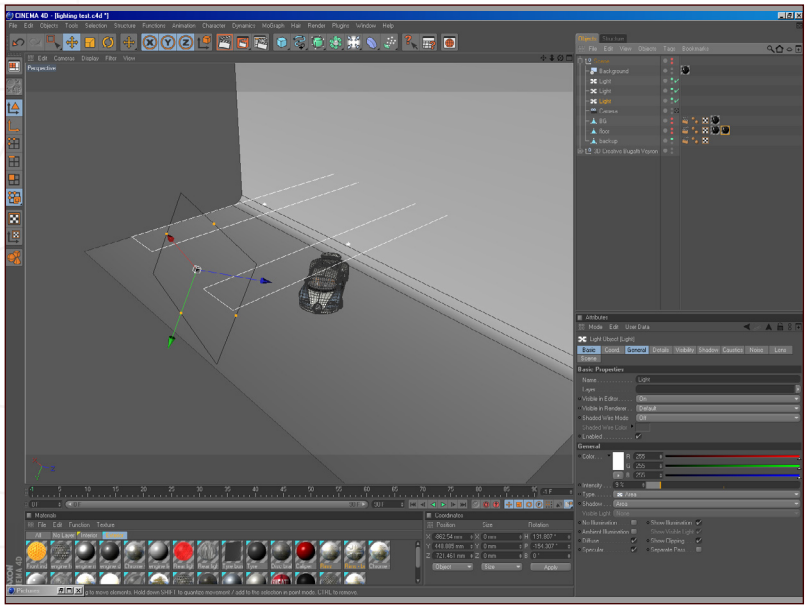


Fig 17

Now, for the front light I've used an area light with a low strength value. We need to light the car but don't want to pull it away from the background too much (**Fig.17**).

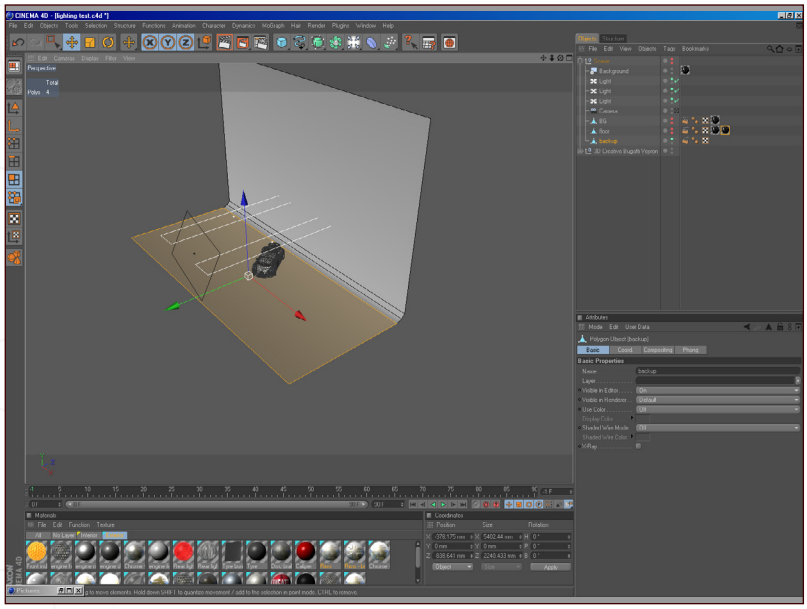


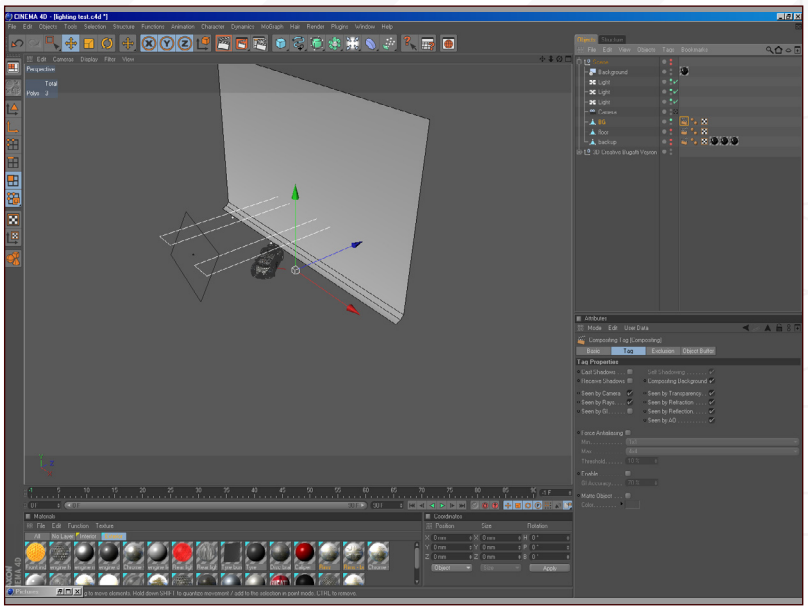
Fig 18

To speed up the render we want to limit what actually gets seen by the GI, so what we need to do is split the stage in two. Select the polygon shown and split it (**Fig.18**).

You should have two stage objects: one is the full original and the other is the newly created single polygon. Delete the polygon on the original to complete the separation and to make sure there are no duplicated polygons overlapping each other.

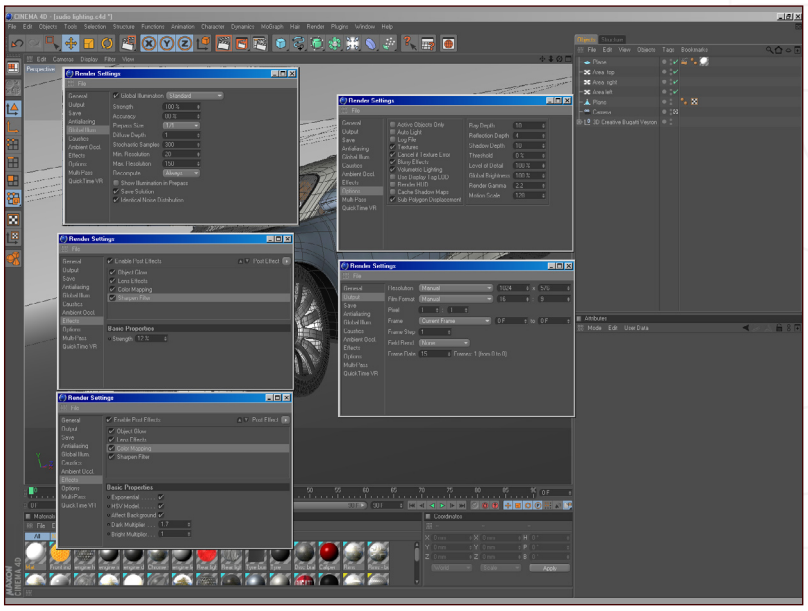
Ctrl and drag the material from the original to the new split object, and add a compositing tag to the original stage (rear of stage). Make the compositing tag values, as shown (**Fig.19**).

Fig 19



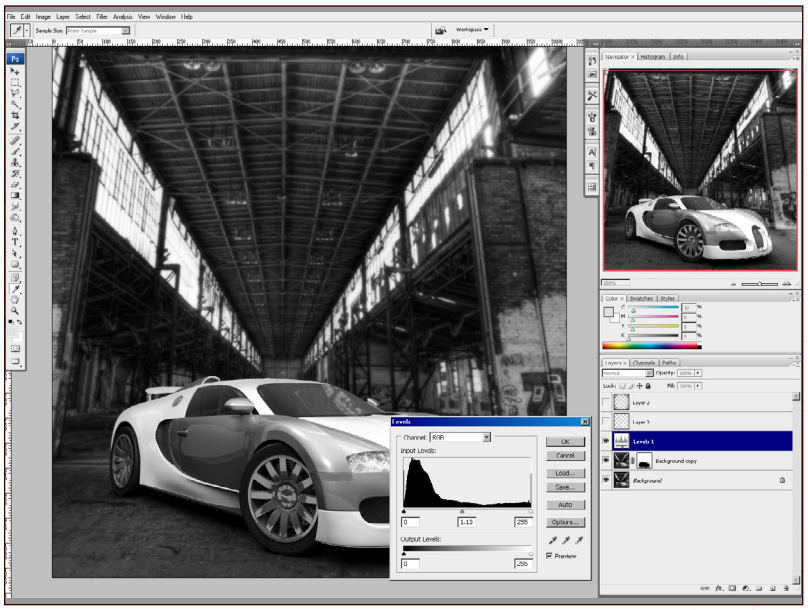
The render settings are the same as used for the studio setup (**Fig.20**).

Fig 20



Click render, and then you'll have the usual minimum of an hour wait…

Fig 21



Notice now that the car has a drop shadow that looks like it's sitting on the floor of the image. This technique is very simple, but you could use the multi-pass settings to render separate passes for the shadow (alpha channel and so on) and then composite them together in Photoshop, which would give you much more control. Once rendered, crop the image and then desaturate and duplicate it. Add some noise and a small amount of Gaussian blur to the image. Then add a Levels adjustment layer to brighten up the overall image (**Fig.21**).

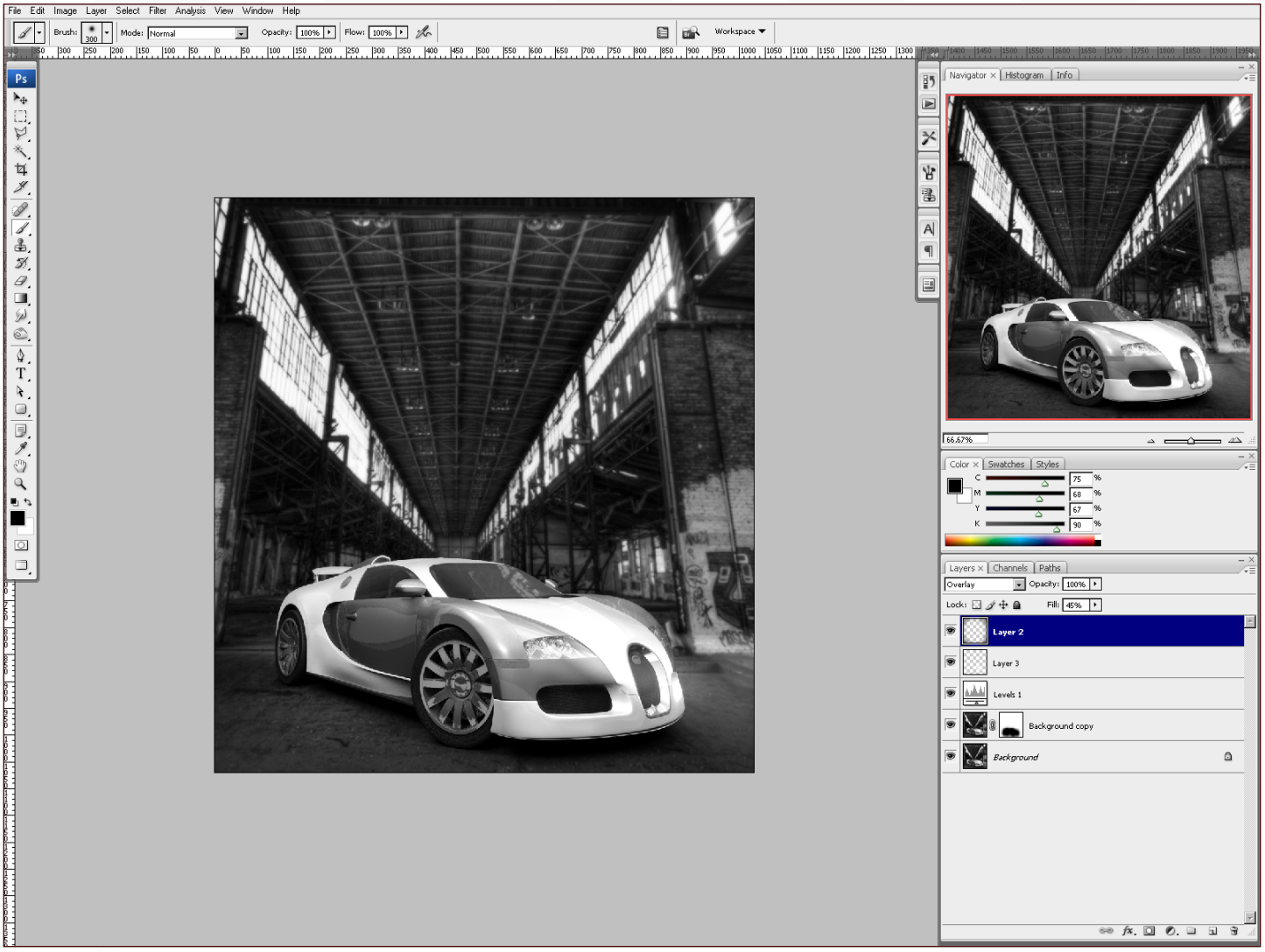



Fig 22

The last thing I do is to add an Overlay layer with airbrushed black corners, to give a vignette look, and that's the compositing completed (**Fig.22**).

Actually, that's the whole tutorial completed, and you should now have a good understanding of how to model, texture, light and render a car right from scratch!

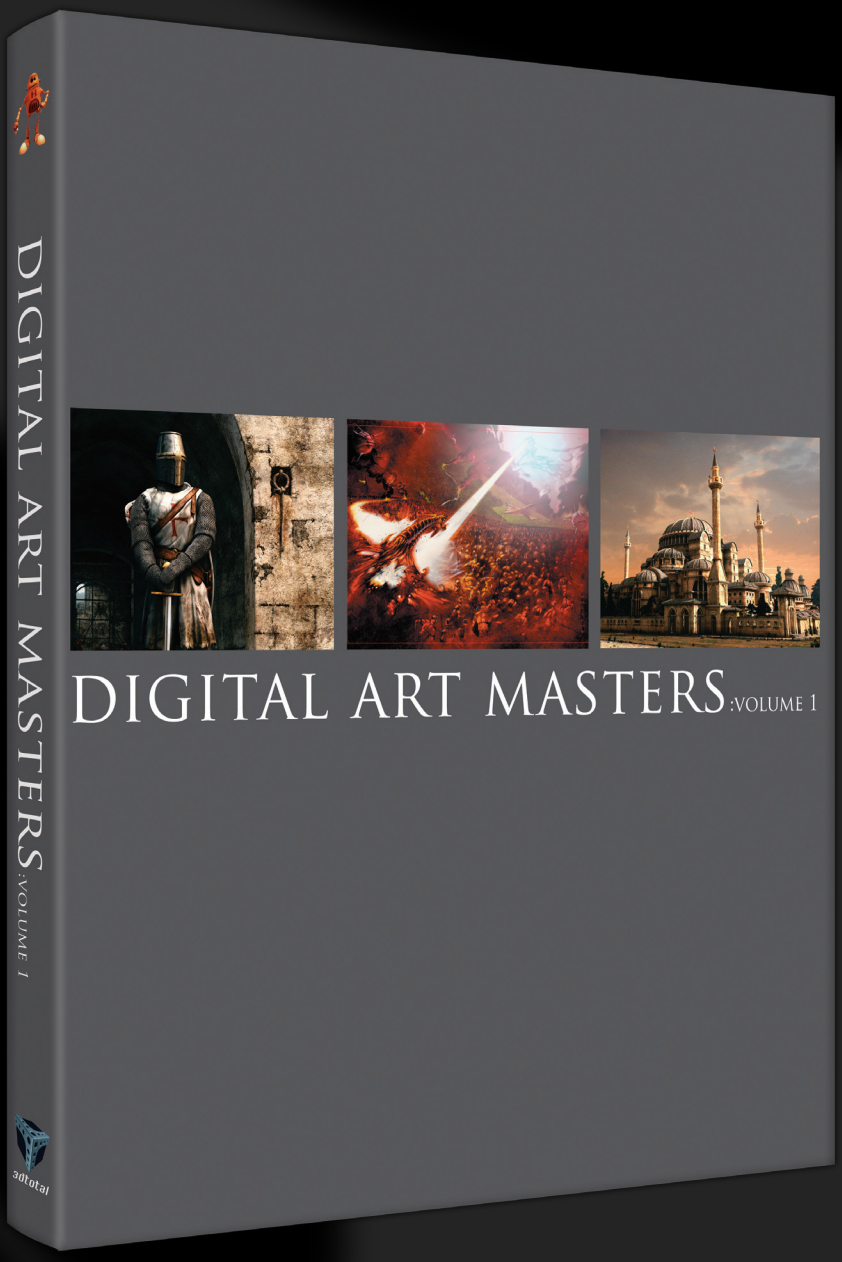
I hope you've enjoyed this series of tutorials as much as I have producing them.
Thanks!

# BUGATTI VEYRON
## PART 7: LIGHTING SET UP & RENDER

Tutorial by:
EMLYN DAVIES
For more from this artist visit:
www.cr8ivity.co.uk
Or contact them:
design_em@mac.com

# Digital Art Masters

## : volume 1




### Introduction:

The 'Digital Art Masters: volume 1' book, is a collection of work from artists which have featured in the gallery of 3DTotal. Spread over 192 pages, the book features some of the finest digital 2D and 3D artwork that you can see today, from artist as Natascha Roeoesli, Philip Straub, Rob Chang, Jesse Sandifer, PiSONG, Meny Hilsenrad and Ryan Lim and many more. More than just any other gallery book, each artist has written a breakdown overview, each with supporting imagery of how they made there piece of work.




### The first book in the "Digital Art Masters" series, contains work by the following artists:

André Holzmeister, Andrey Yamkovoy, Balazs Kiss, Cetin Tuker, Daniele Montella, d'Ettorre Olivier-Thomas, Donald Phan, Drazenka Kimpel, Egil Paulsen, Eric Wilkerson, Fabricio Micheli, Francisco Ferriz, Fred Bastide, Fredrik Alfredsson, Haure Sebastien, Jesse Sandifer, Jorge Adorni, Juan J. González, Juliano Castro, Khalid Abdulla Al-Muharraqi, Landis Fields, Laurent Gaumer, Laurent Ménabé, Li Suli, Linda Tso, Marcel Baumann, Marco Siegel, Mariska Vos, Meny, Hilsenrad, Natascha Roeoesli, Nicolas Richelet, Niels Sinke, Norbert Fuchs, Olli Sorjonen, Omar Sarmiento, Patrick Beaulieu, Philip Straub, PiSONG, Richard Tilbury, Rob Adams, Robert Chang, Romain Côte, Ronnie Olsthoorn, Rudolf Herczog, Ryan Lim, Siku and Thierry Canon

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# Bugatti Veyron
## car modelling series

lightwave

The series will cover an in-depth and comprehensive guide to modelling the amazing Bugatti Veyron car, from start to finish. We will focus on the key techniques and stages involved in building the chassis, as well as details such as the windows, lights, vents, petrol caps, engine parts and so on. The series will then move on to creating the wheels, including tyres and hubcaps, before going on to building and incorporating an interior, namely the dashboard and seating. This will be followed by a section on creating and applying materials for the numerous parts of the car, such as the paint work, chrome, rubber and glass, before concluding with a tutorial devoted to setting the scene for a finished render. The final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.

This series aims to offer a comprehensive guide for creating a finished car to people who are new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but they do endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 031 March 2008
MODELLING THE CHASSIS - DETAILS

Issue 032 April 2008
WHEELS, TYRES & RIMS

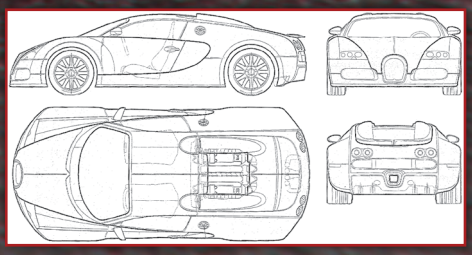
Issue 033 May 2008
INTERIOR

Issue 034 June 2008
THE MATERIALS & FINISHES

Issue 035 July 2008
LIGHTING SET UP & RENDER

ENJOY ...

Blueprints are available here:

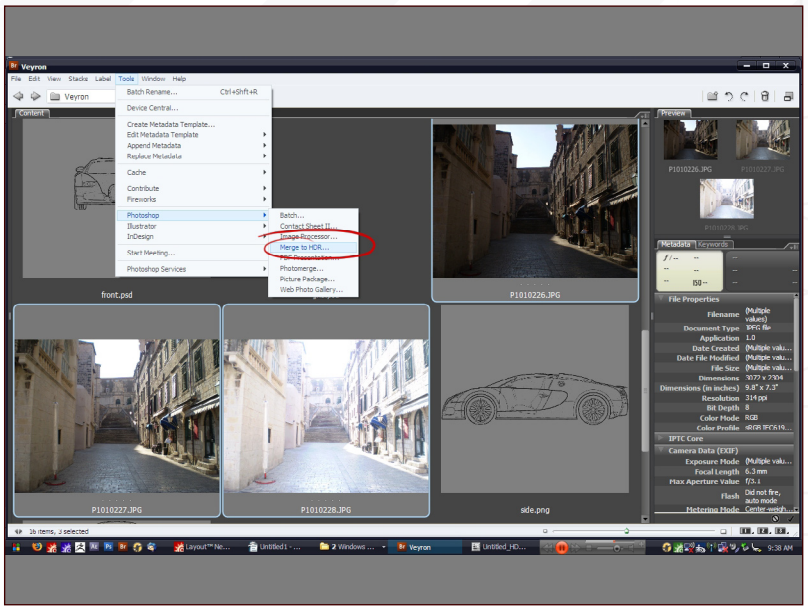


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# BUGATTI VEYRON
## PART 7 : LIGHTING SET UP & RENDER

Hello and welcome to the final instalment of the Bugatti Veyron tutorial series. In this part we are going to create an environment for the car, make a couple of different passes, and then render and composite them in Adobe Photoshop to create the final image.

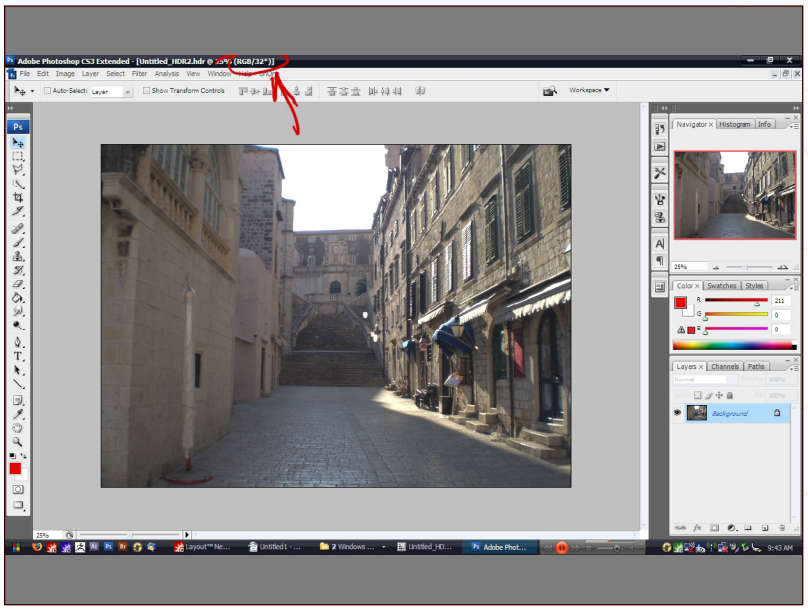
Fig 01



We'll start first of all with the creation of the environment for the Veyron. I've chosen 3 photos that I took last winter on vacation in the lovely Dubrovnik, in Croatia. The images were taken in 3 exposure steps (EV -2, 0 and 2). For this piece I have chosen to use Adobe Bridge to navigate them; select Tools > PS > Merge to HDRI. This makes an aligned HDR image out of the 3 chosen photographs (**Fig.01**).

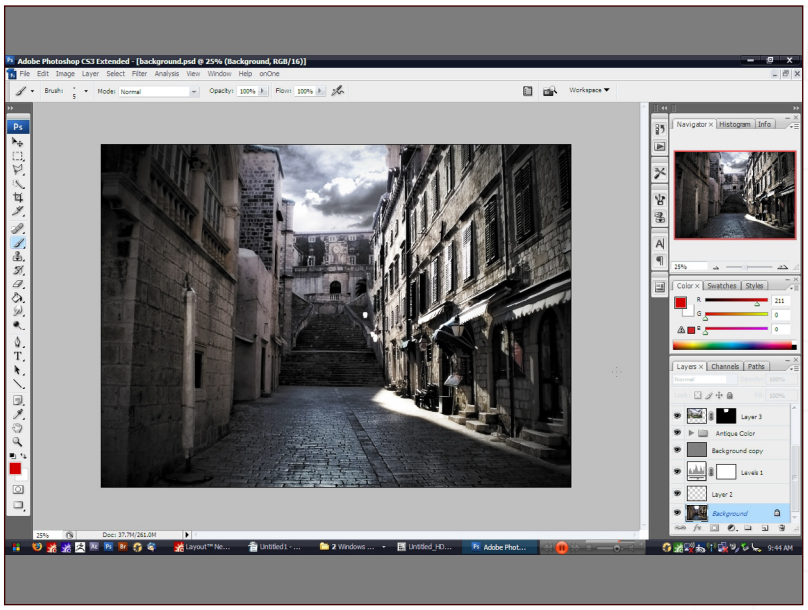
Save the HDR image (**Fig.02**).

Fig 02



Here I tone-map the image using Dynamic-Photo HDR software, and make some adjustments to the image back in PS. This will serve as the background plate, so save one high-res version in .psd and one low-res in .jpg format for the Layout (**Fig.03**).

Fig 03



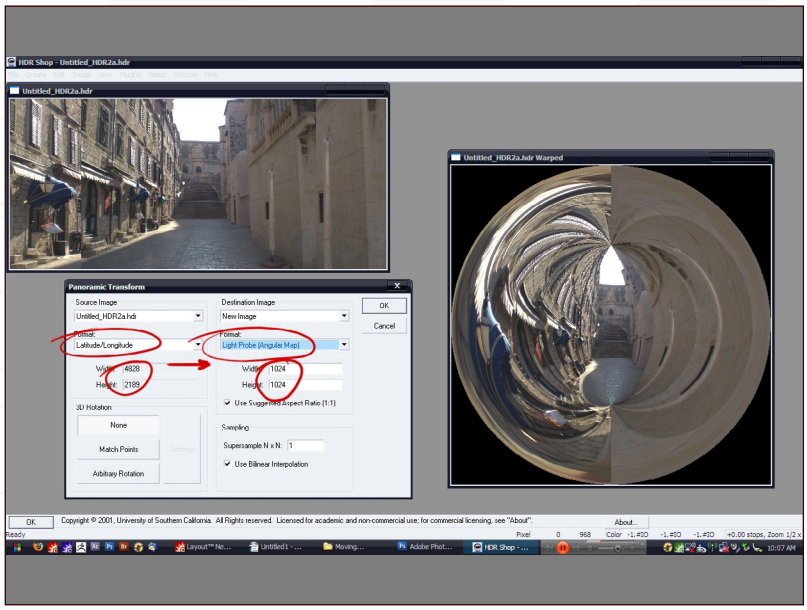



Fig 04

In HDR Shop I use a stretched version of the HDRI image and wrap it into LightProbe HDRI. Save the HDRI LightProbe as a new file (**Fig.04**).

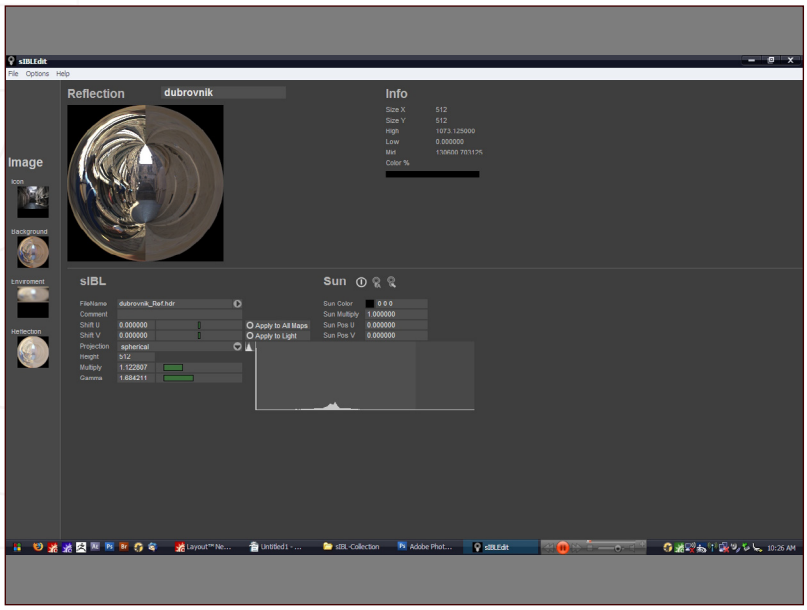



Fig 05

We are now going to use sIBL and LightB.I.T.C.H. free plugins from http://www.hdrlabs.com (while you're there I also recommend you check out the HDRI handbook to learn how to make your own HDR images!). Use the sIBL tool to make environments from your HDRI file and save out the sIBL file (**Fig.05**).

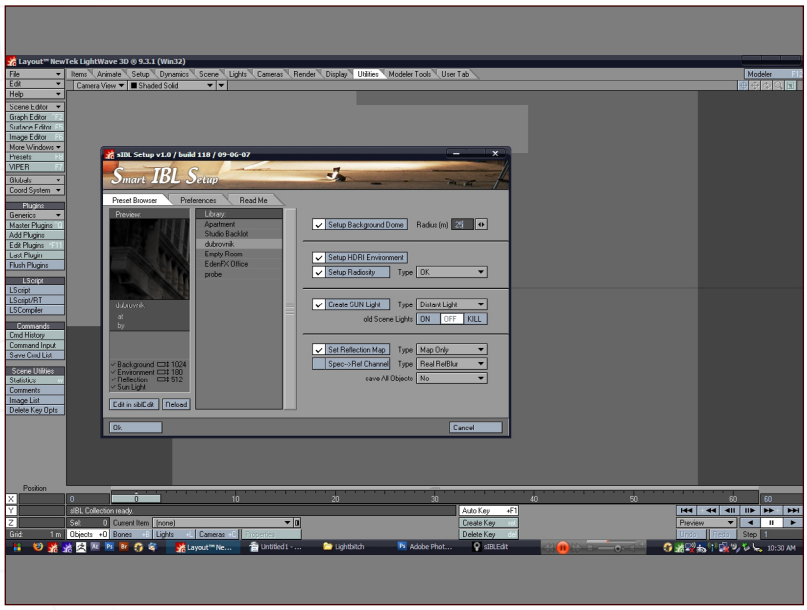
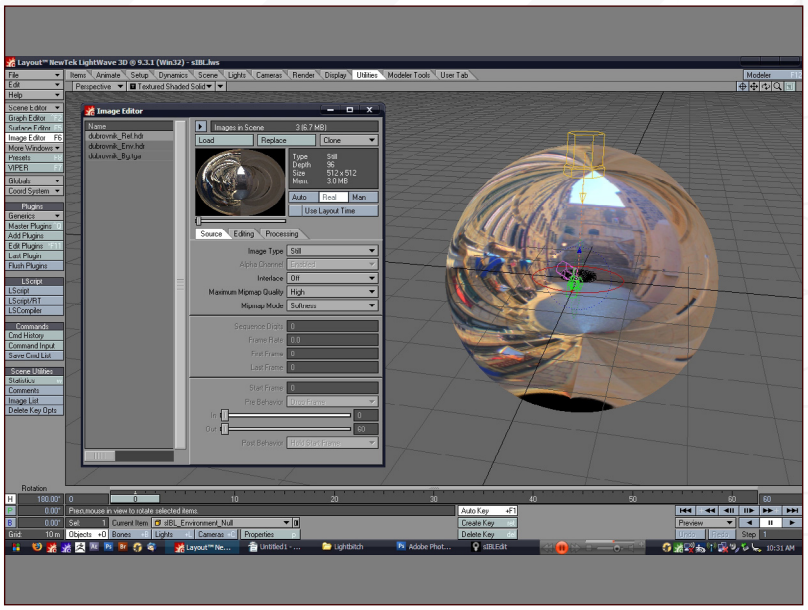



Fig 06

In Layout, load the sIBL plugin to load in the environment and the necessary images (**Fig.06**).

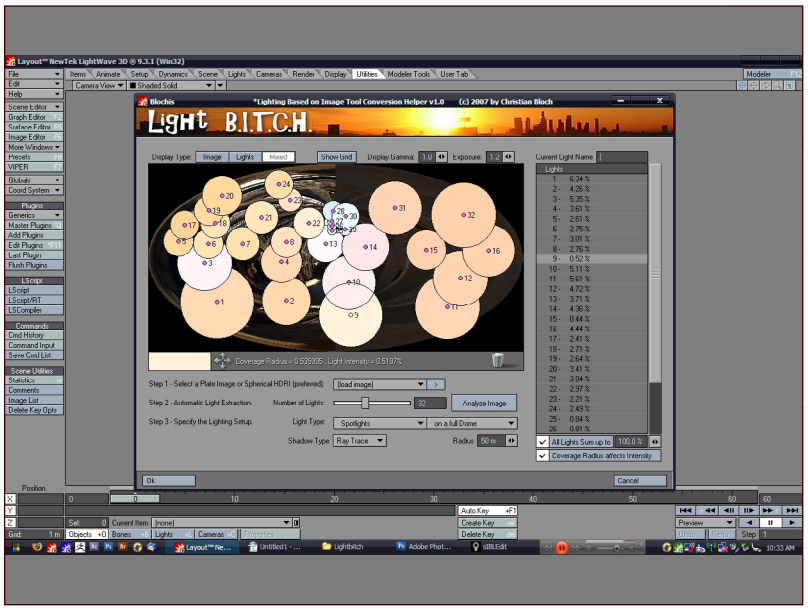
Save it as a new LW scene (**Fig.07**).

Fig 07



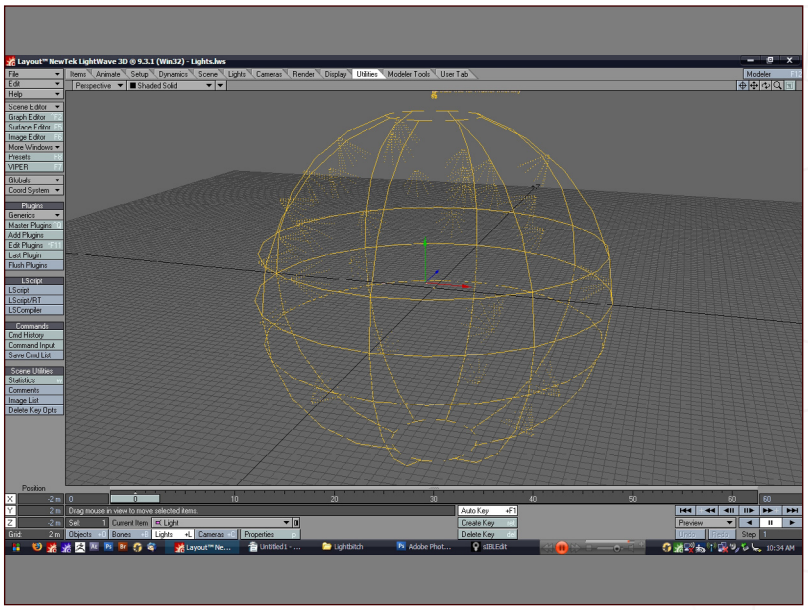
Start a fresh scene and load up the LightB.I.T.C.H. plugin. Load your HDR image and create the lighting set as shown in the image (**Fig.08**).

Fig 08




Save the scene containing the lights extracted from the image. This way we don't have to bother with radiosity to mimic the real world lights; instead we'll have the lights arranged and placed in the scene with the same colour and intensity values as the HDR image (**Fig.09**).

Fig 09



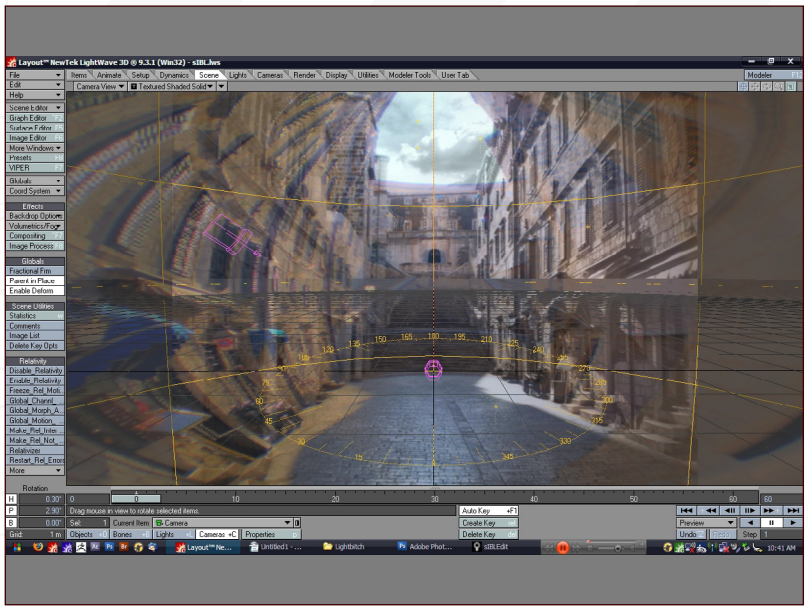


Fig 10

Open the previous sIBL scene and use the Load items function to load your lights from the scene that we created in the previous step. This way, we merge these two scenes into the same place (**Fig.10**).

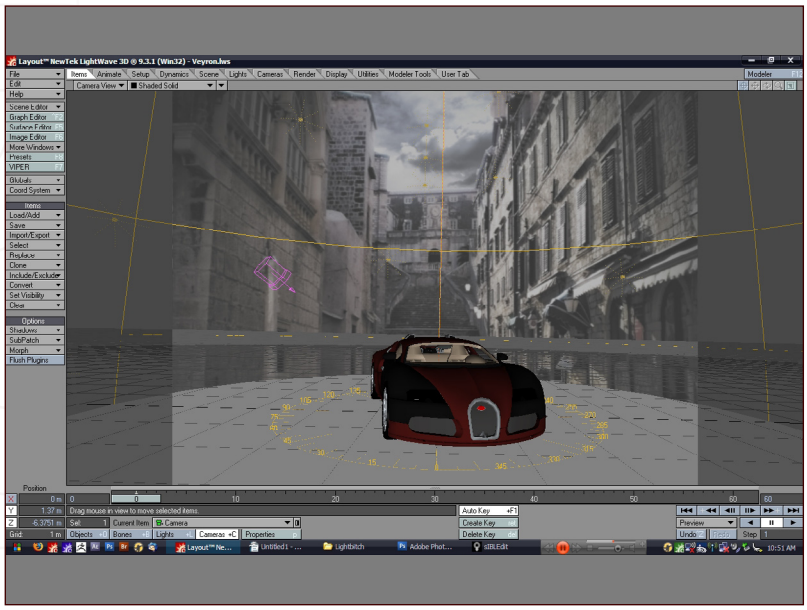


Fig 11

Load in the background plate and your Veyron model. Set the dome to half the transparency and then tweak the camera angle and zoom in to align things in the scene. This may take some time to get right, but by using the bottom ground polygon square as your guide when you are rotating the camera, it will help you to align things (**Fig.11**).

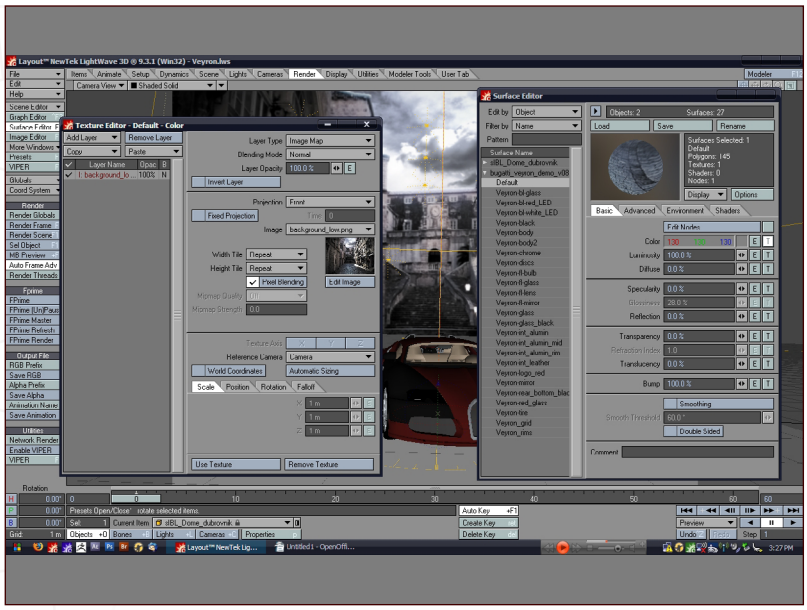
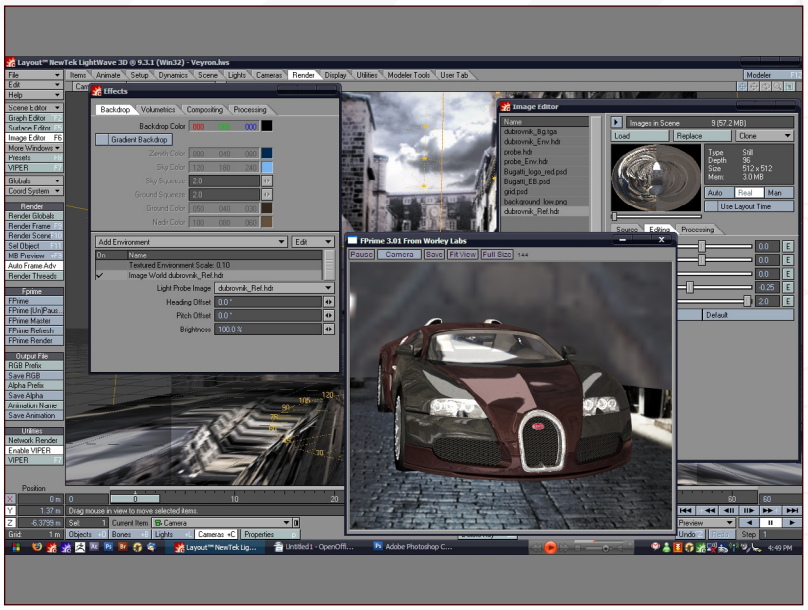


Fig 12

For the bottom polygon, set the surface to 100% luminosity and the front projection mapped background plate for colour channel. This way we are going to get real reflections from the bottom (**Fig.12**).

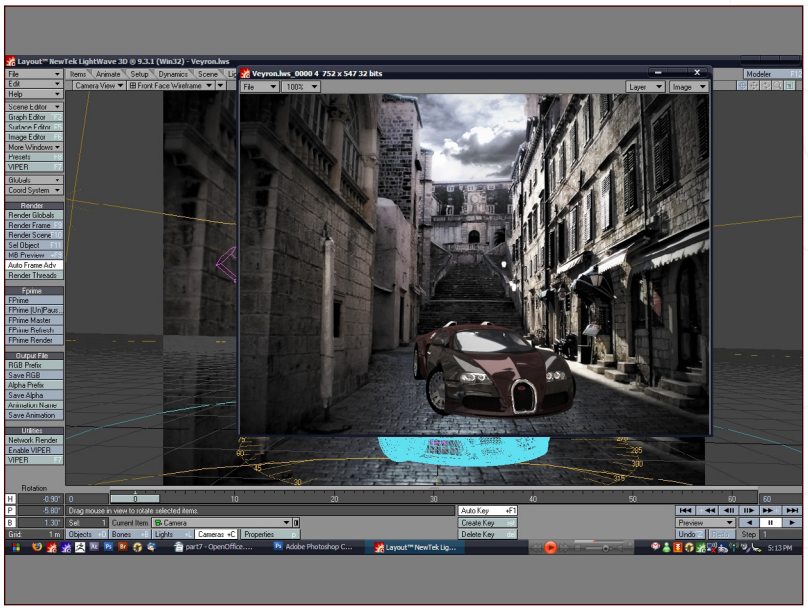
For the backdrop options, set new Image World environment with Ref HDRI, made from sIBL, to help out with the reflections (**Fig.13**).

Fig 13



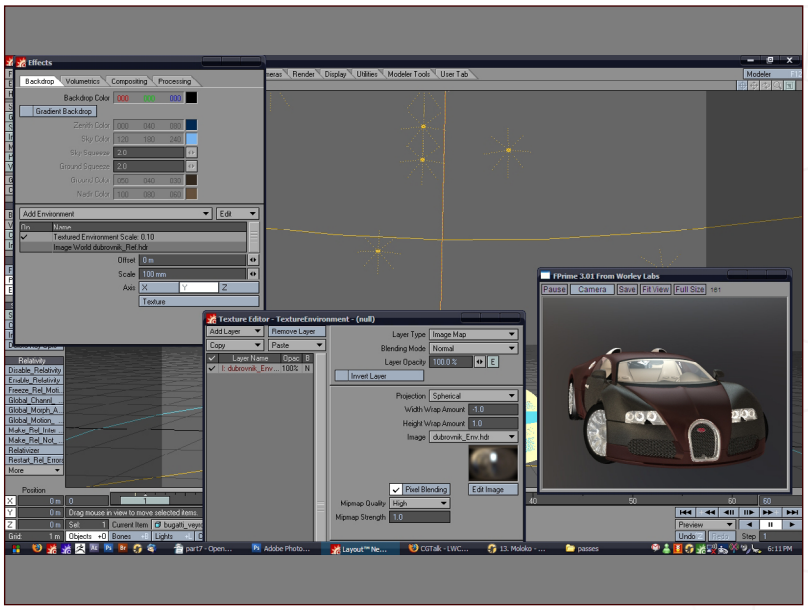
Make a test render now, which should show that everything is pretty much fine and that the reflections and lighting match the scene. We'll take this to the next level now and make render passes for the final Photoshop compositing work (**Fig.14**).

Fig 14



Switch back to the old environment made from sIBL (the blurry, low-res HDRI), turn off all other elements – except for the car – and render out a full-res image. Save it as a Beauty pass. You might want to save the model and the scene for use later on, and you should definitely save the master scene and the model as a backup (**Fig.15**)!

Fig 15



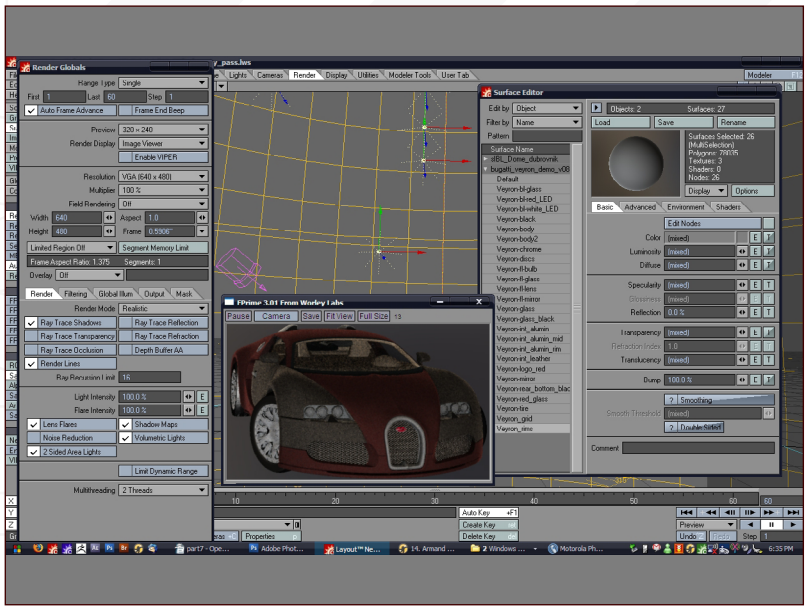


Fig 16

Select all the surfaces in the Surface Editor and set the Reflection channel to zero for all of them. Render out at full-res and save it as a Light pass (**Fig.16**).

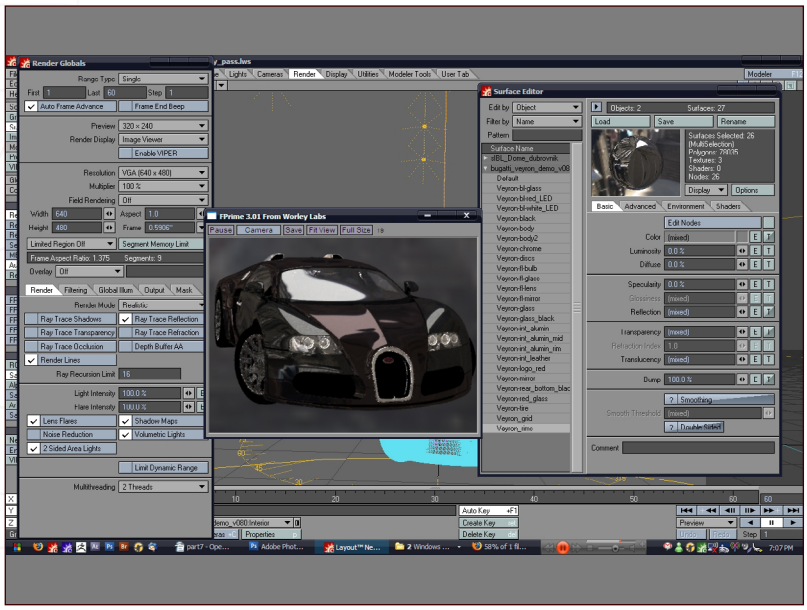


Fig 17

Revert now to the master scene and model, and select all of the car's surfaces again. Now kill all of the channels – except for the reflection channels; make sure Trace Reflections is on and then render and save the result as your Reflection pass (**Fig.17**).

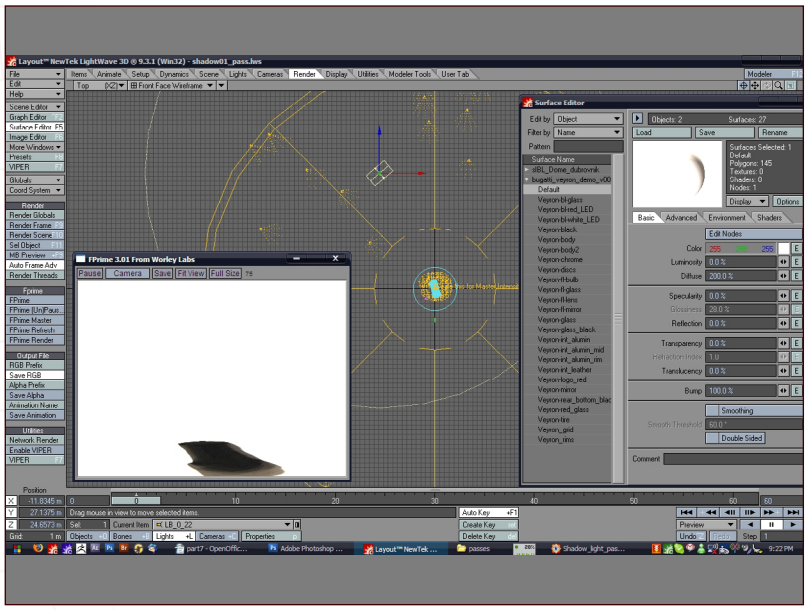
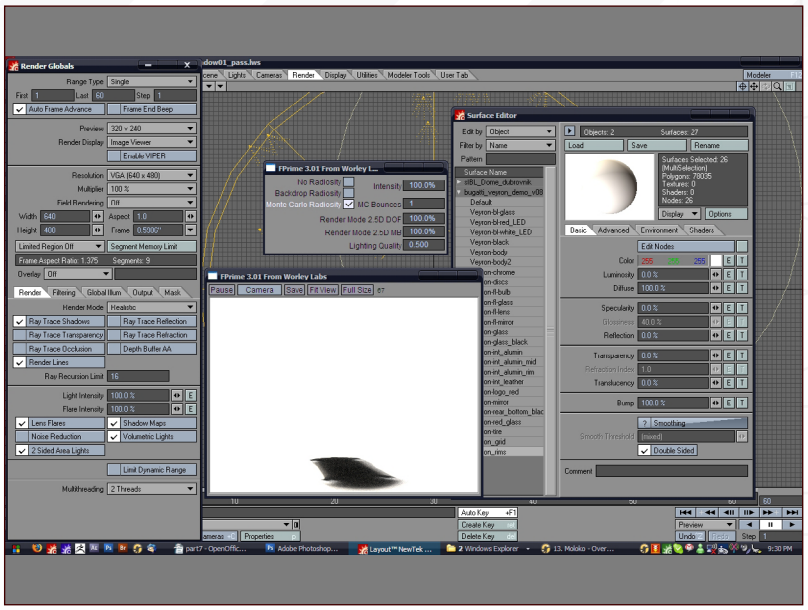


Fig 18

Select one of the lights from the top, behind the car, and change it to an Area light. Give the bottom surface a white colour and then set its diffuse to 200% to make it totally white. Turn Trace Shadows on and render out only the bottom polygon without a car. Save it as your Shadow01 pass. This will be our main shadow (**Fig.18**).

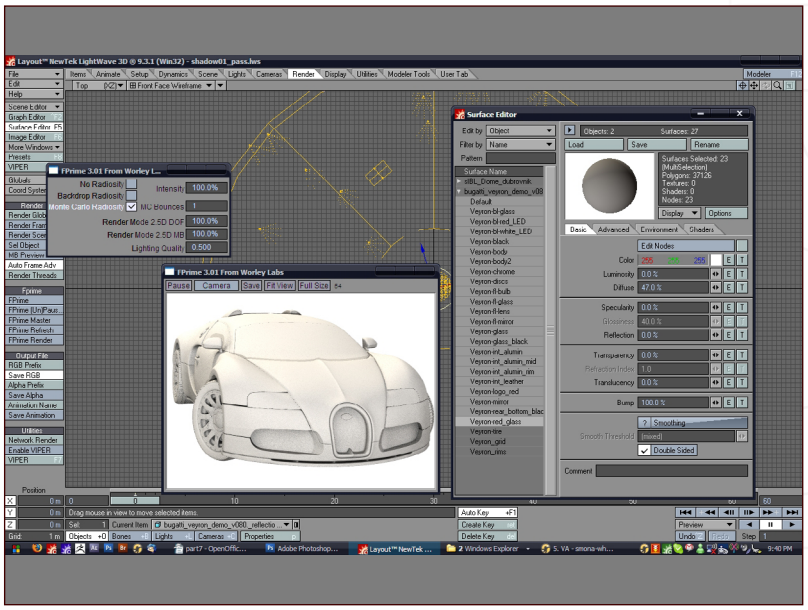
Revert the light back and use Radiosity to render out soft shadows spreading underneath the car. Save it as your Shadow02 pass (**Fig.19**).

Fig 19



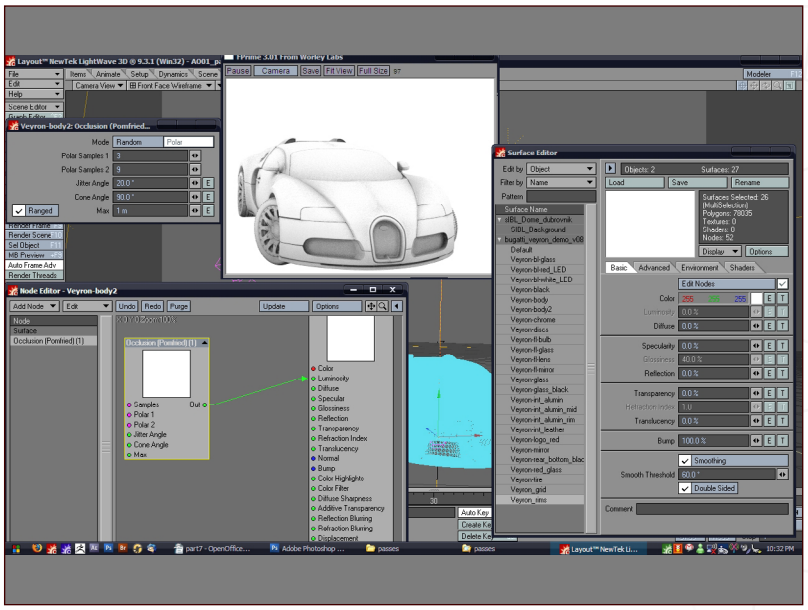
Turn the Veyron model on and the bottom plate off; select all of the surfaces and then give them a “default” surface with a white colour and half the diffuse. You shouldn’t have any bright spots on the car. Render out with radiosity and save it as your AO01 pass (AO stands for Ambient Occlusion) (**Fig.20**).

Fig 20



Beside the real one we are going to have a fake one, just as a helper to tone the edges of the later one. I used the free Pomfried occlusion node connected to the luminosity channel. Render and save as your AO02 pass (**Fig.21**).

Fig 21



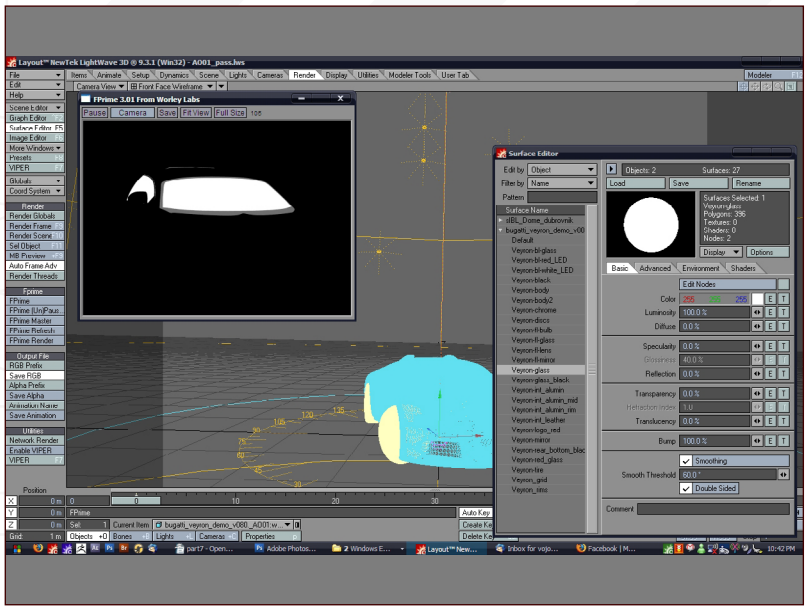


Fig 22

Now we need a series of alpha plates. Select all of the surfaces and turn them to a dull black, this time with no luminance or diffuse. Set the background to black. Set the windshield surface to white with 100% luminosity and 50% for the black edge. Save this as your Glass Alpha pass (**Fig.22**).

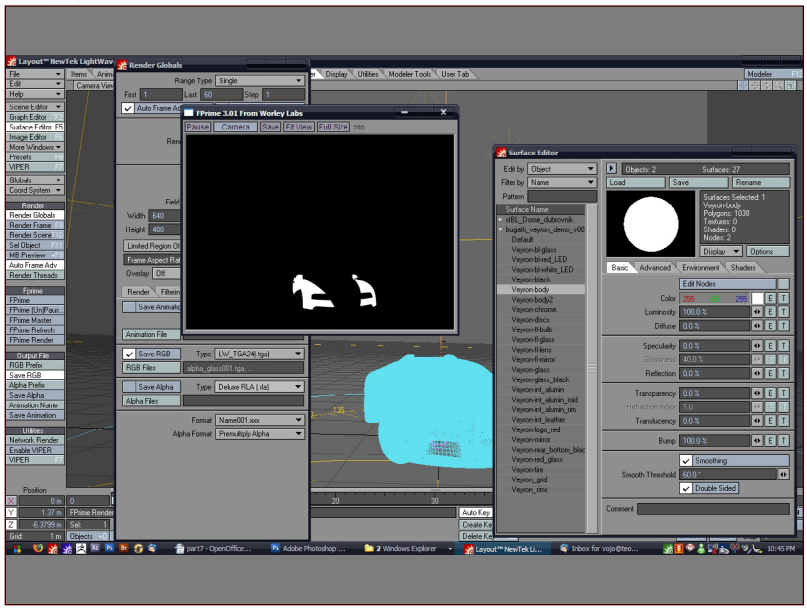


Fig 23

Do the same for your Body01 Alpha (**Fig.23**).

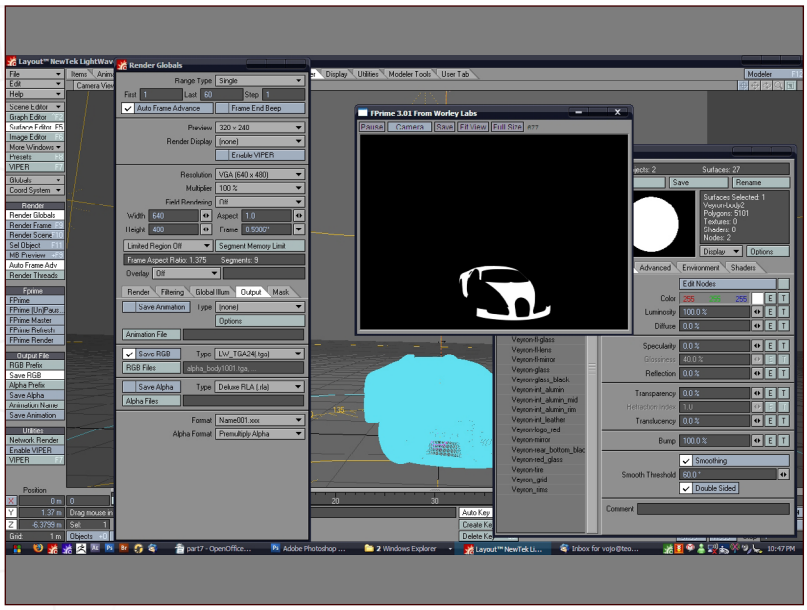
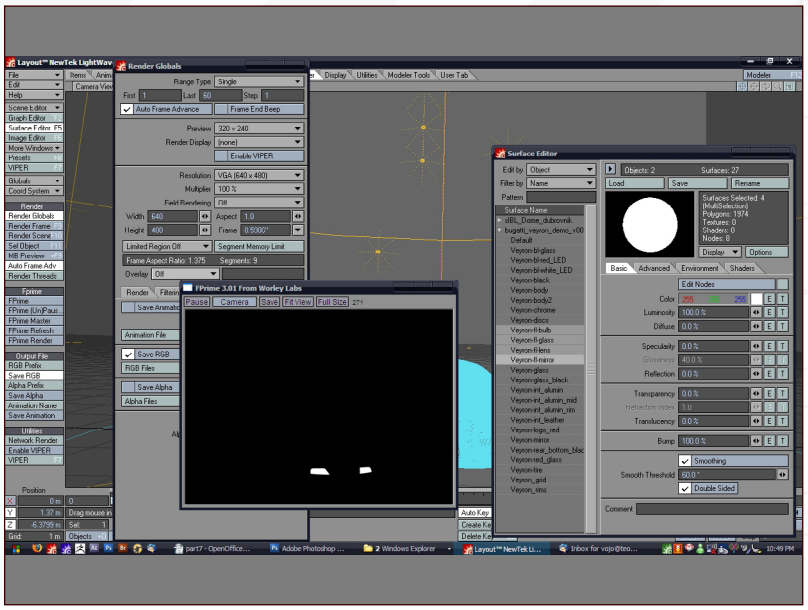


Fig 24

Body02 Alpha (**Fig.24**)

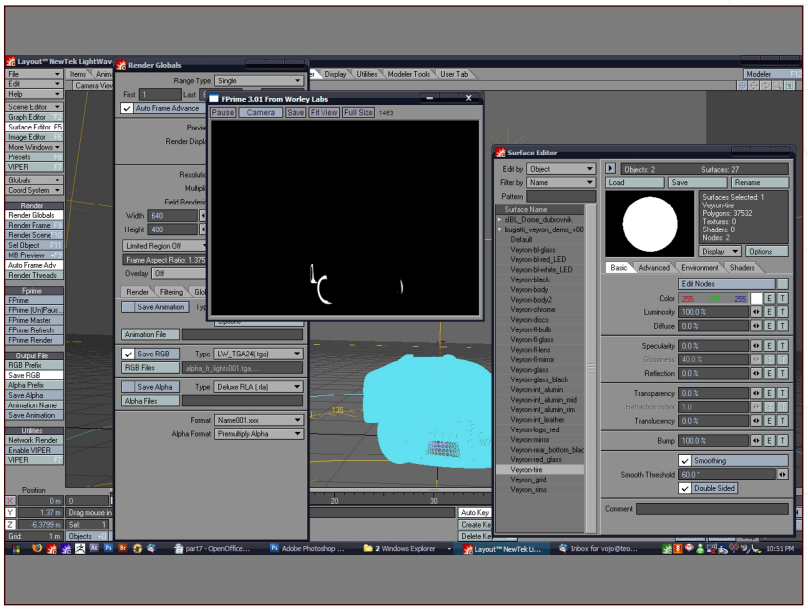
Front Lights Alpha (**Fig.25**)

Fig 25



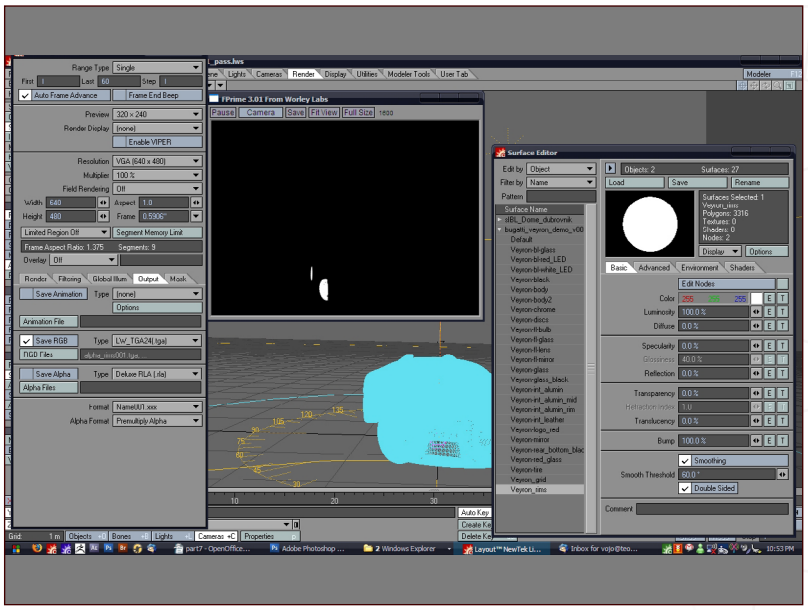
Tyres Alpha (**Fig.26**)

Fig 26



Rims Alpha (**Fig.27**)

Fig 27



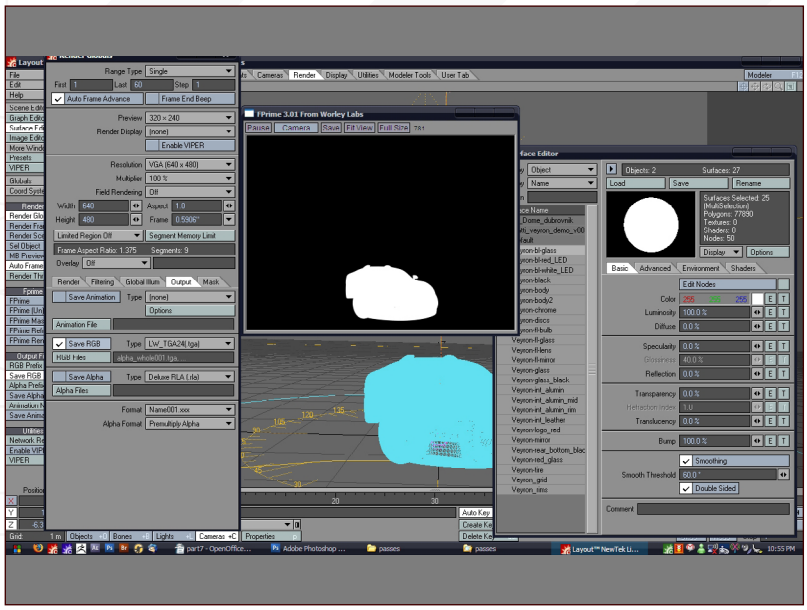


Fig 28

Whole Body Alpha (**Fig.28**)

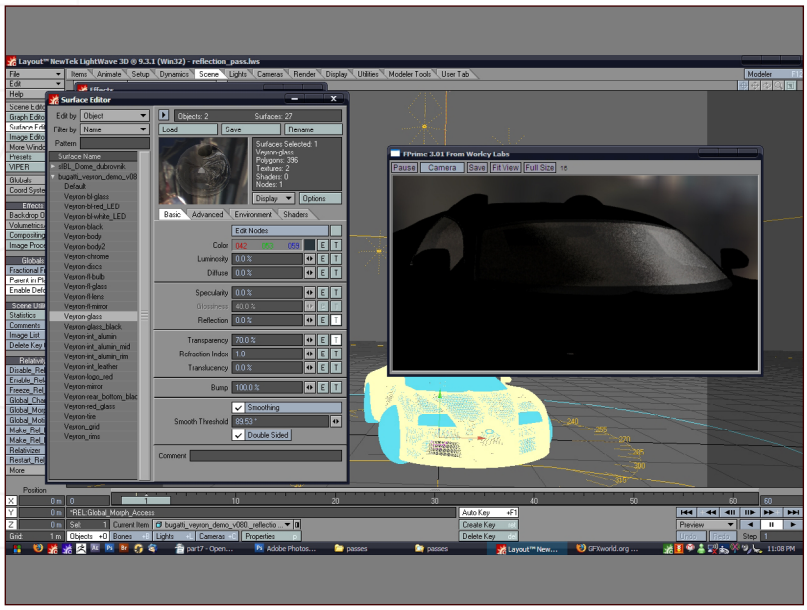


Fig 29

Set the windshield reflection blur to around 50% and render out as your Windshield Reflection pass (**Fig.29**).

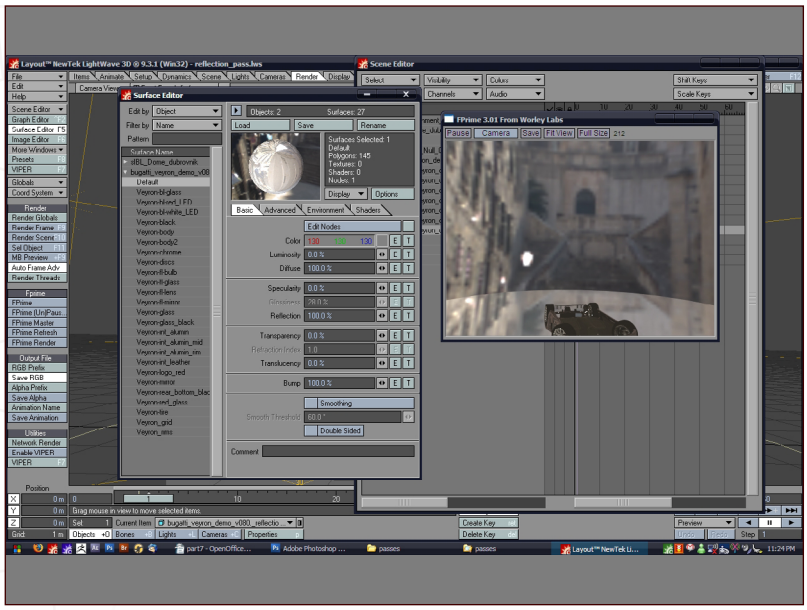
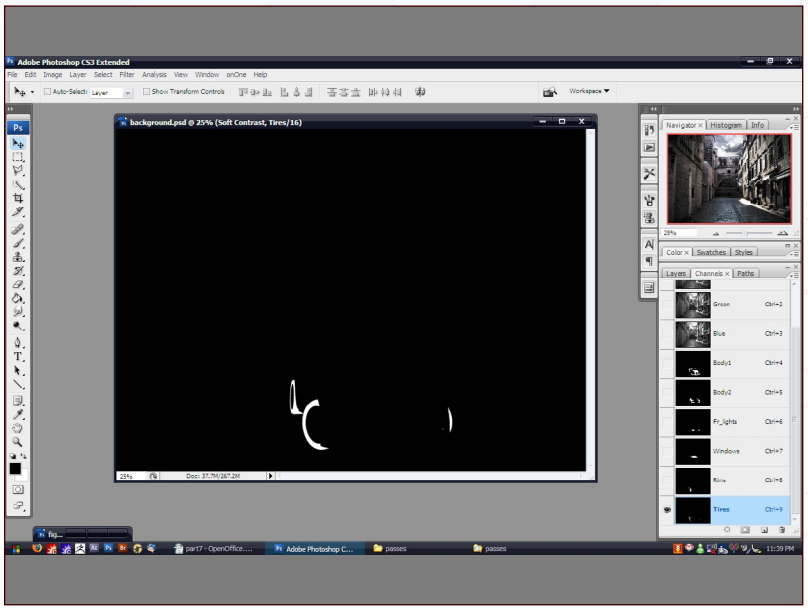


Fig 30

Set the bottom surface to 100% reflective and render out as a Reflection pass for the ground (**Fig.30**).

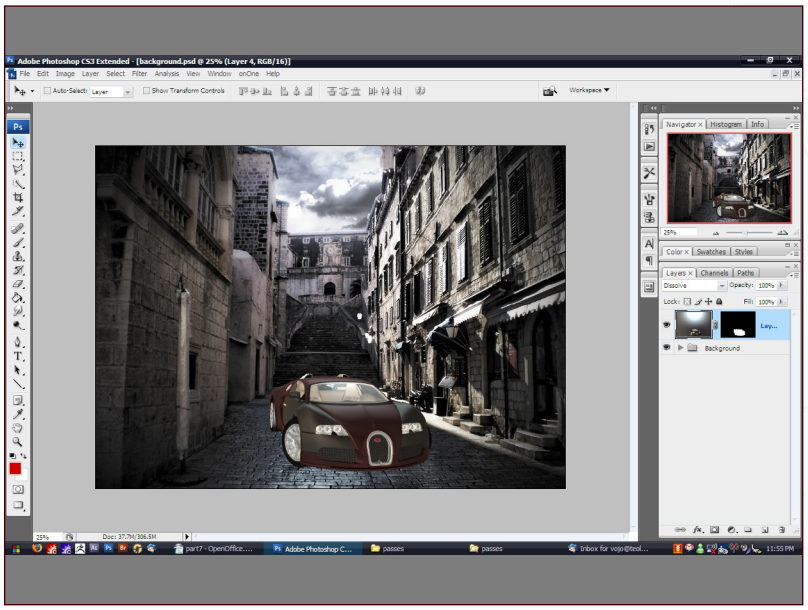
Now you can load all of your alphas into your PSD composition (**Fig.31**).

Fig 31



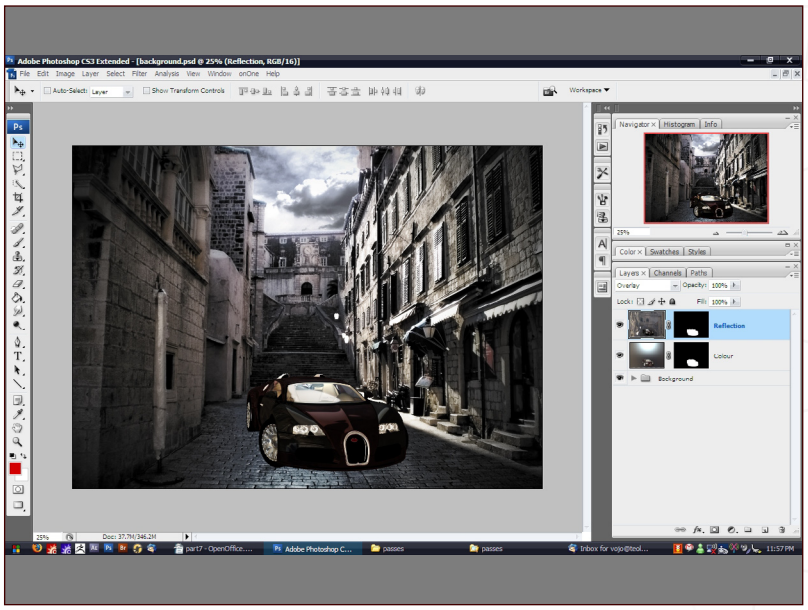
Load in your Beauty pass and set the layer mask to complete the car (**Fig.32**).

Fig 32



Load in the Reflection pass, set it to Overlay and then set the layer mask again (**Fig.33**).

Fig 33



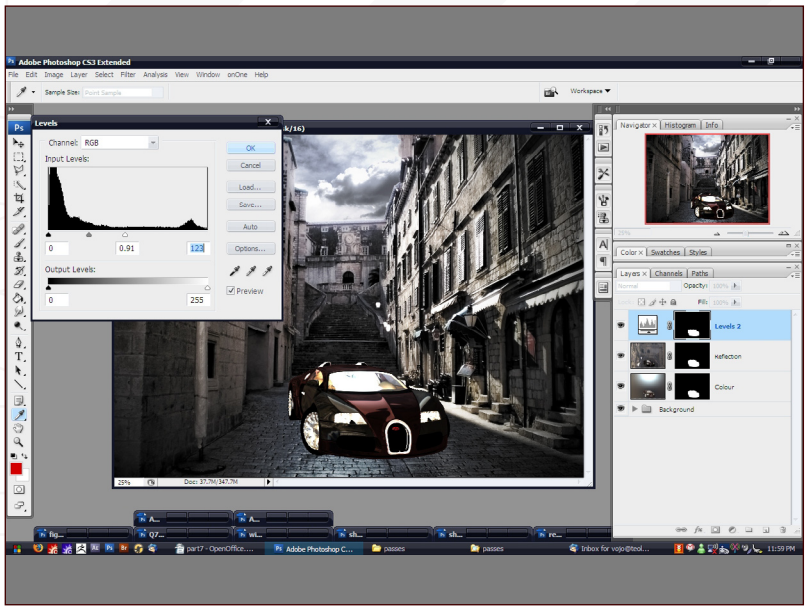


Fig 34

Create a new Levels adjustment layer and tweak the reflections on the car (**Fig.34**).

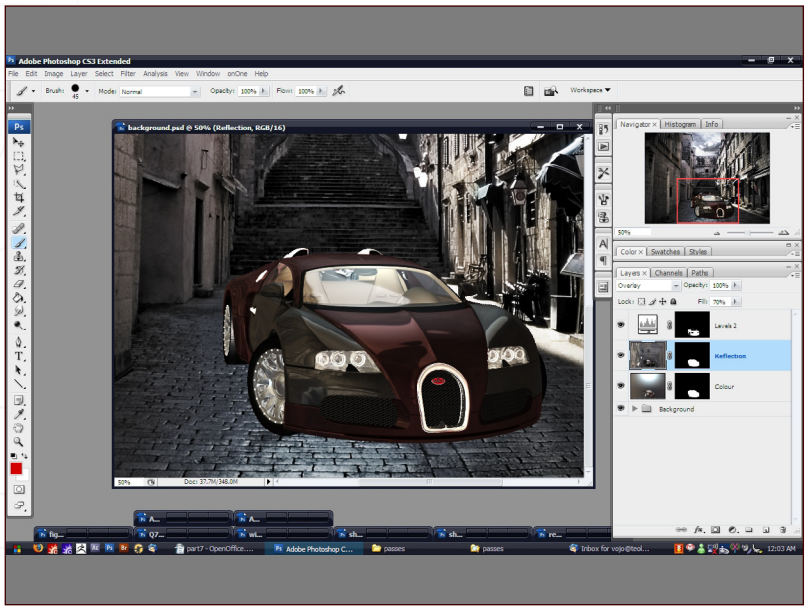


Fig 35

Adjust the transparency of the Reflection pass if it's too strong. Make a new set named "Car" and move all of the car layers into it, to help organise things better (**Fig.35**).

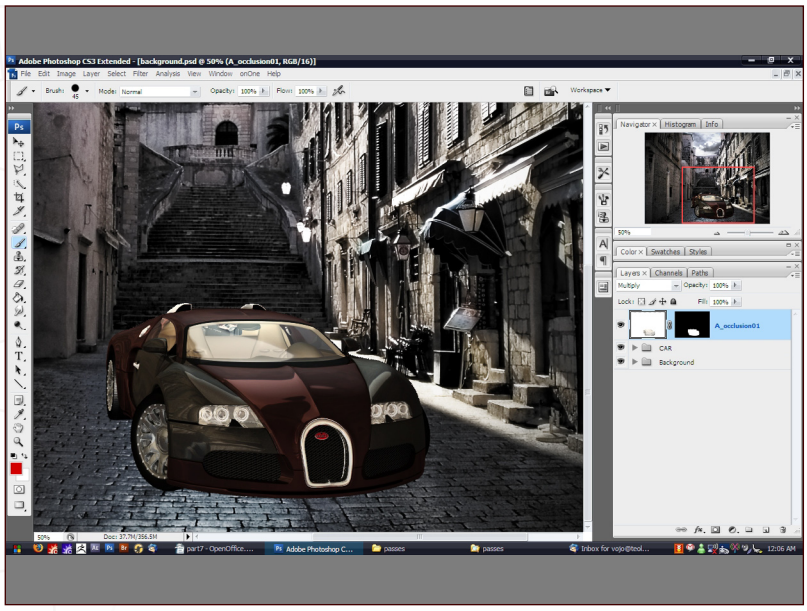
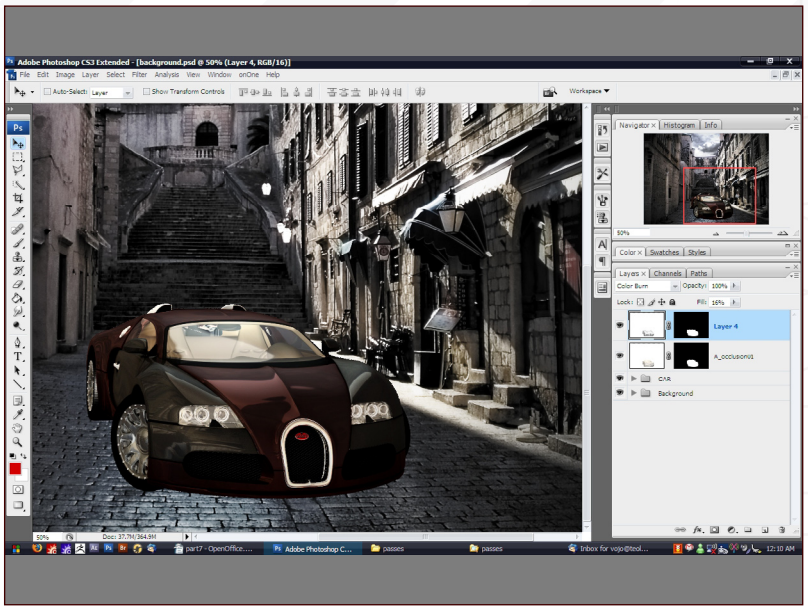


Fig 36

Now load in your AO01 pass and set it to Multiply (**Fig.36**).

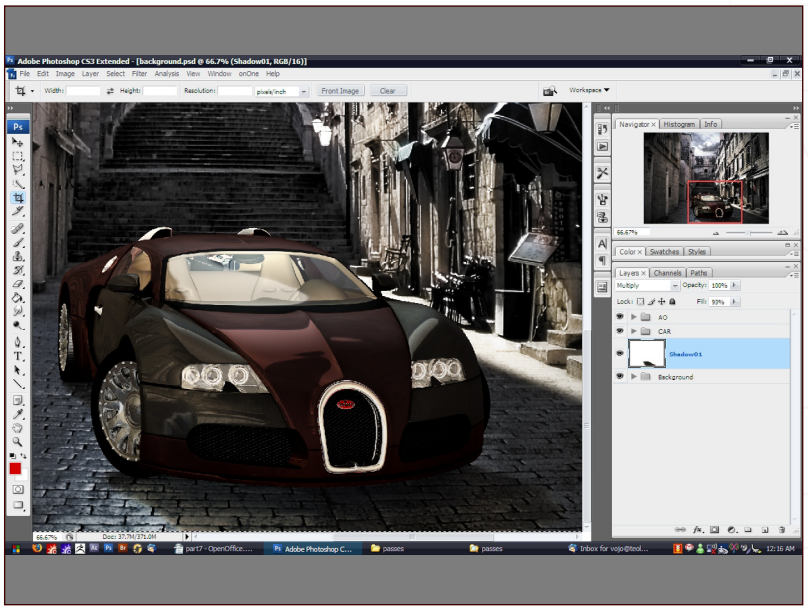
Load in your AO02 pass and set it to Colour Burn. Put your AO layers into a new set and tweak their opacities if they are too strong (**Fig.37**).

Fig 37



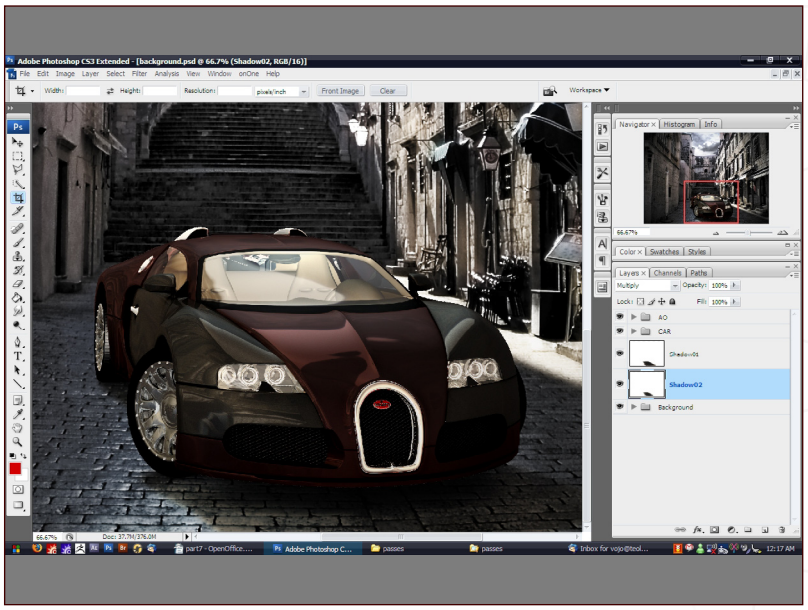
Load in the Shadow01 pass now and set it to Multiply. Blur the layer a little in order to match the blurriness of the environmental shadows (**Fig.38**).

Fig 38



Load in the Shadow 02 pass, set to Multiply and blur again. Move them into a new set and again tweak the opacities until they look right (**Fig.39**).

Fig 39



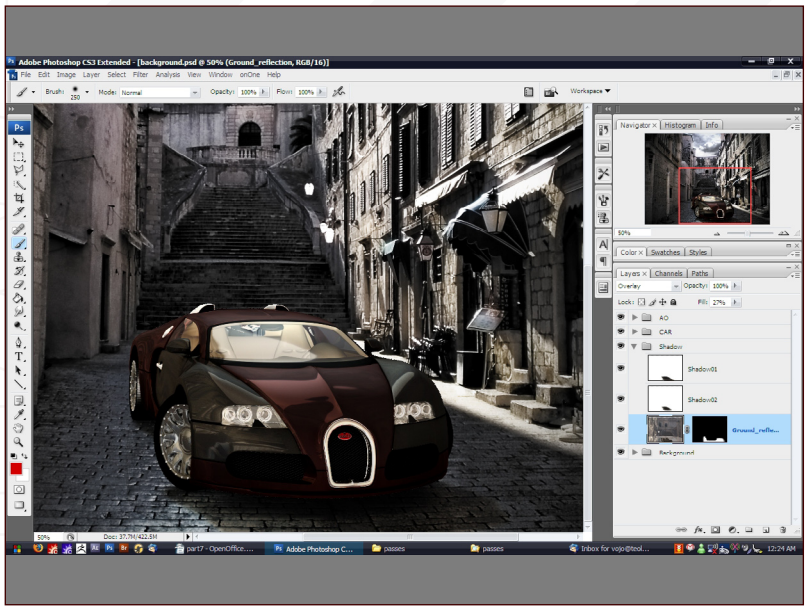


Fig 40

Load in your ground Reflection layer and put it underneath the shadows. Set it to Overlay, blur it a touch and then paint in the layer mask so that it's not going over the car or its surroundings (**Fig.40**).

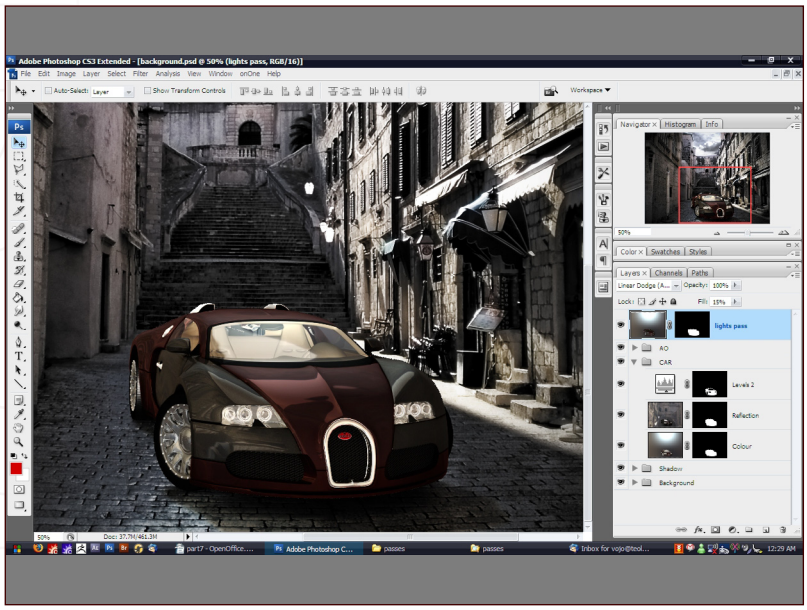


Fig 41

Load in the Light pass and put it above everything. Set it to Linear Dodge and tweak the opacity to brighten up the car **(Fig.41**).

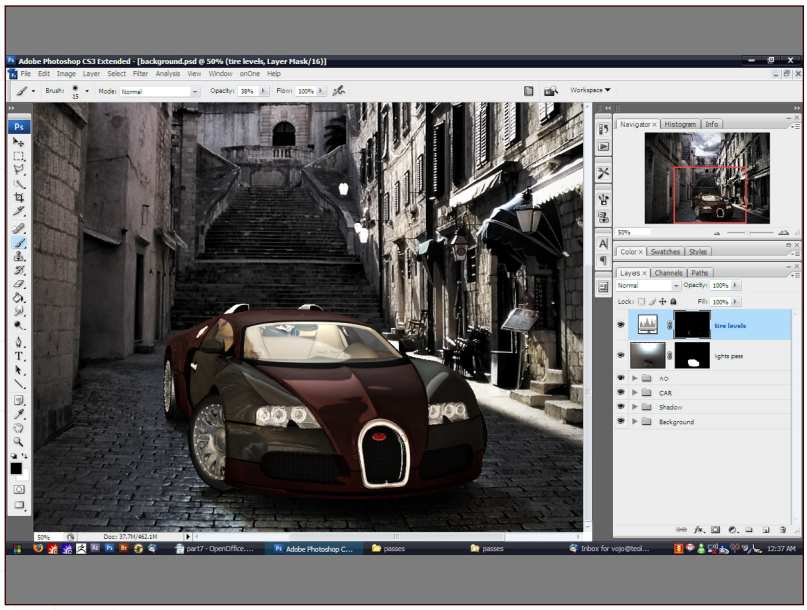
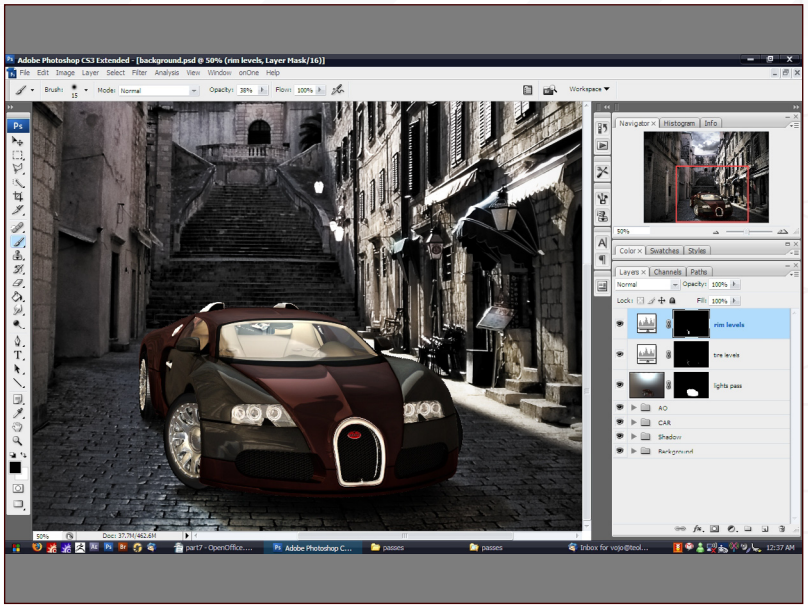


Fig 42

Make a new Levels adjustment layer with the Tyres alpha as a layer mask. Tweak the Levels to brighten up the tyres a little (**Fig.42**).

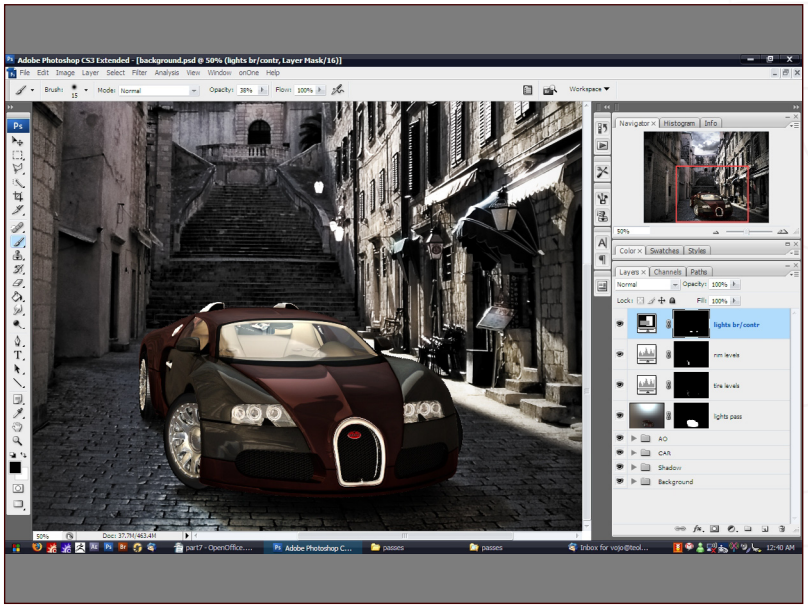
Repeat the same process again here, only this time for the rims (**Fig.43**).

Fig 43



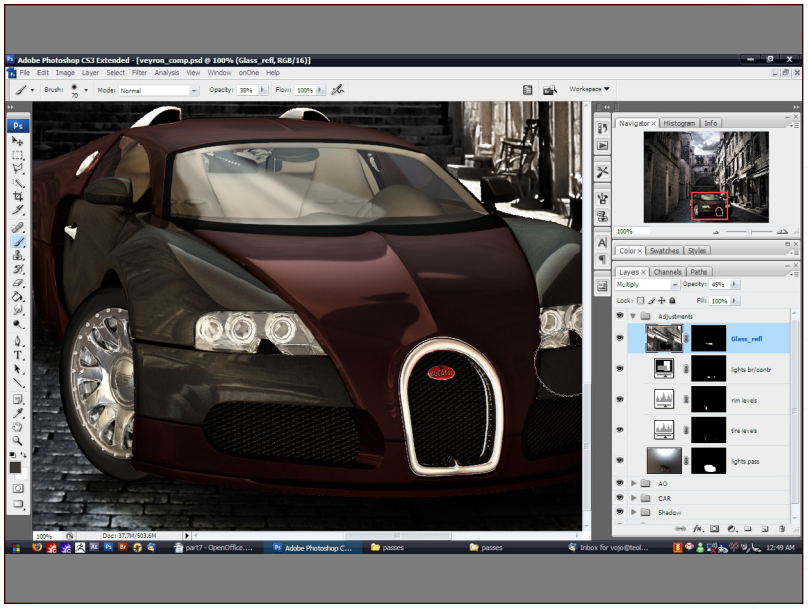
Make a Brightness/Contrast adjustment layer and set the layer mask to front lights (**Fig.44**).

Fig 44



Load in the Windshield Reflection pass, set it to Multiply and then set its layer mask to window mask (**Fig.45**).

Fig 45



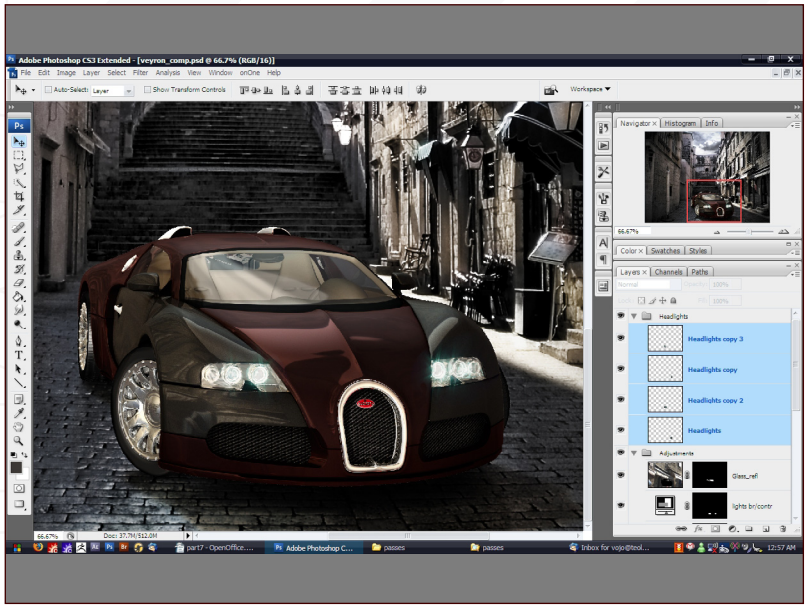


Fig 46

I found some light streaking images on the Internet at this point and then set them on a layer over the lights in Screen mode. Adjust the shape and opacity to make them fit in with your scene (**Fig.46**).

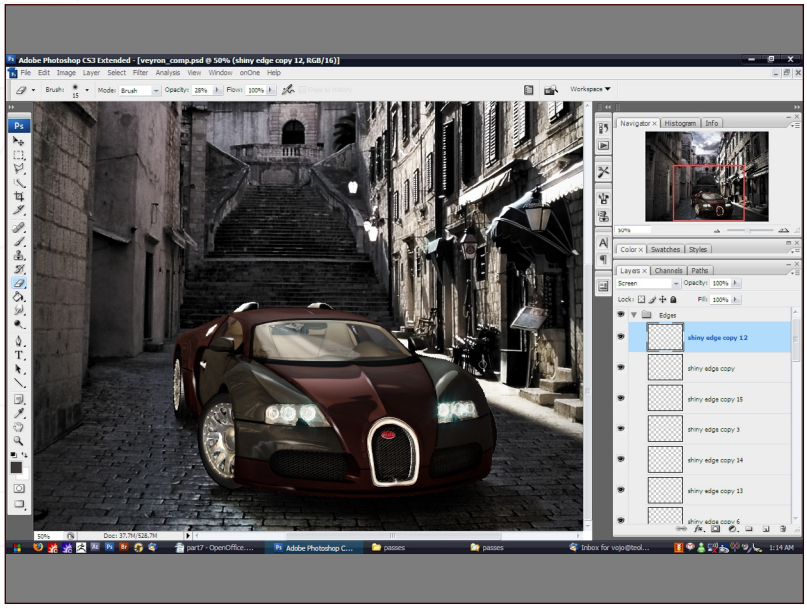


Fig 47

I also manually brightened the edges of the car in Photoshop (**Fig.47**).

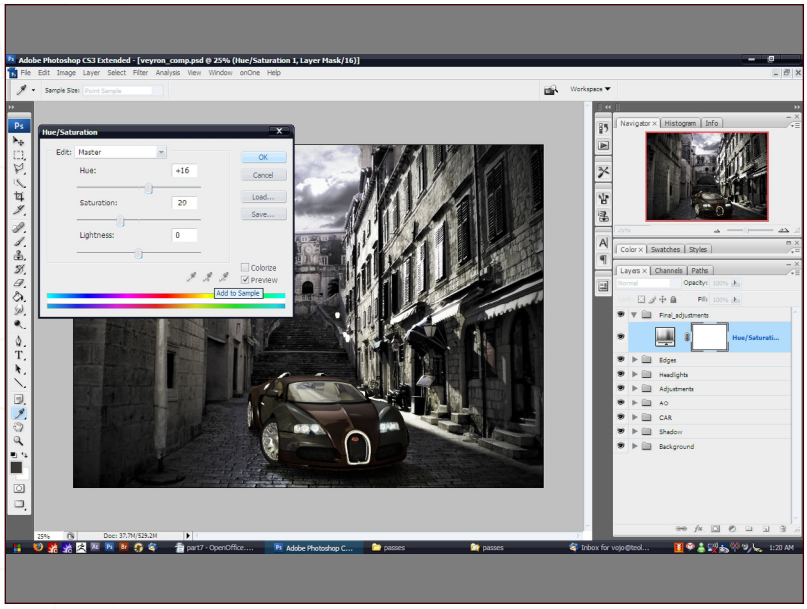
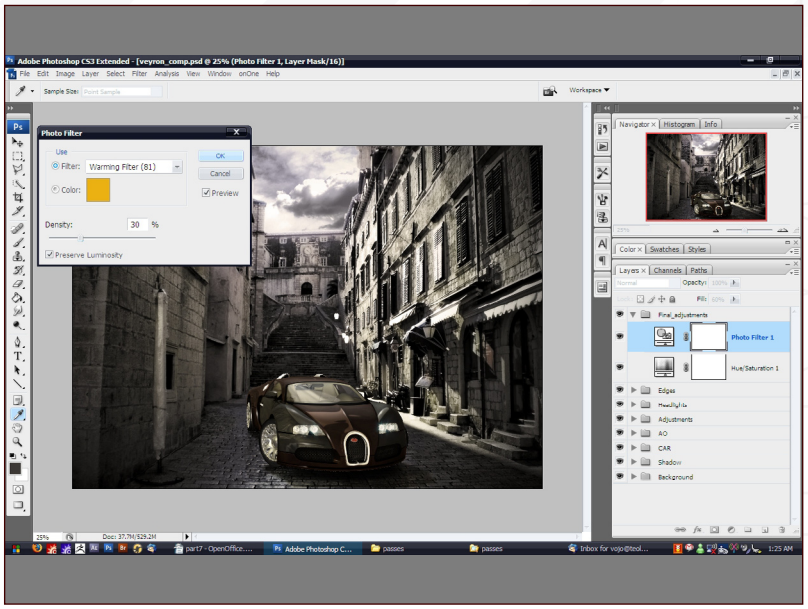


Fig 48

Make a final adjustments layer set and create a new Hue/Saturation adjustment layer to tweak the overall hue and saturation of the image (**Fig.48**).

Add a new photo filter adjustment layer above all, and set the tonal adjustments for the whole thing (**Fig.49**).

Fig 49



And that is it! You now have your final composition to tweak and play around with. All of the major parts are separated so that you can simply adjust each one separately (**Fig.50**).

Fig 50



I hope you have enjoyed this tutorial series and that you have learned a lot from it. It has been a pleasure to bring this tutorial series to the end, and I hope to see you again in 3DCreative. Thank you!

# BUGATTI VEYRON
## PART 7 : LIGHTING SET UP & RENDER

Tutorial by:
VOJISLAV MILANOVIC
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# Bugatti Veyron
## car modelling series

The series will cover an in-depth and comprehensive guide to modelling the amazing Bugatti Veyron car, from start to finish. We will focus on the key techniques and stages involved in building the chassis, as well as details such as the windows, lights, vents, petrol caps, engine parts and so on. The series will then move on to creating the wheels, including tyres and hubcaps, before going on to building and incorporating an interior, namely the dashboard and seating. This will be followed by a section on creating and applying materials for the numerous parts of the car, such as the paint work, chrome, rubber and glass, before concluding with a tutorial devoted to setting the scene for a finished render. The final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.

This series aims to offer a comprehensive guide for creating a finished car to people who are new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but they do endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 031 March 2008
MODELLING THE CHASSIS - DETAILS

Issue 032 April 2008
WHEELS, TYRES & RIMS

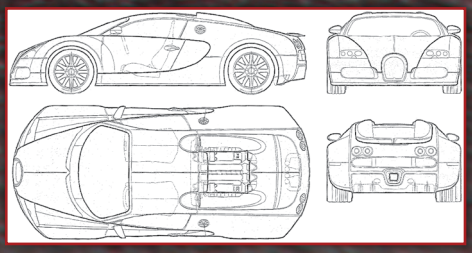
Issue 033 May 2008
INTERIOR

Issue 034 June 2008
THE MATERIALS & FINISHES

Issue 035 July 2008
LIGHTING SET UP & RENDER

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# BUGATTI VEYRON
## PART 7 : LIGHTING SET UP & RENDER

Welcome to the lighting and rendering section of this tutorial series. In this final tutorial we are going to produce a final rendered image of our car model and integrate it into a photo or photomontage. Since we started on lighting in the previous tutorial we'll carry on from there and build on the lighting system that we have to create the final render. The lighting system will be refined and materials adjusted to get a final image that we can take into Photoshop for finishing.

As mentioned in the previous tutorial, it is very important to understand the purpose of the final image. In this case it will be a more advertising-style image that we want to create, so it will be a more polished look and less gritty realism that we'll be after. So let's get started!

The first thing to do is sort out a backplate so that we can go on to perspective match and set up our shot. In this case I have made a composite backplate from several different photos in order to get the layout and distribution I wanted. I have chosen a low angled, dutched (camera rolled) view point with a narrow angle of view to give a very classic, yet dramatic, shot for the car (**Fig.01**). I have created a 5,000 pixel wide image to produce a fairly decent resolution image.

The next step is to import the backplate into the camera view in order to match the perspective. First of all save a small version of the backplate, say 1,024 pixels wide, and then in Maya open the render settings dialogue and enter the correct image size for the backplate that you have prepared. Now create a camera, and in the environment tab of the Attribute Editor click on the image plane > Create button (**Fig.02**). In the image plane dialogue box (**Fig.03**), load in the backplate file. Click on Fit to Resolution

Fig 01



Fig 02

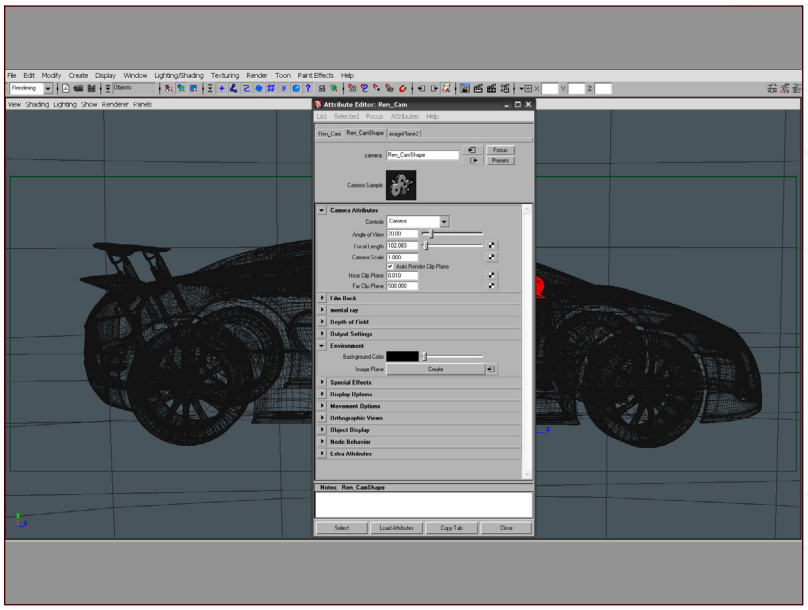
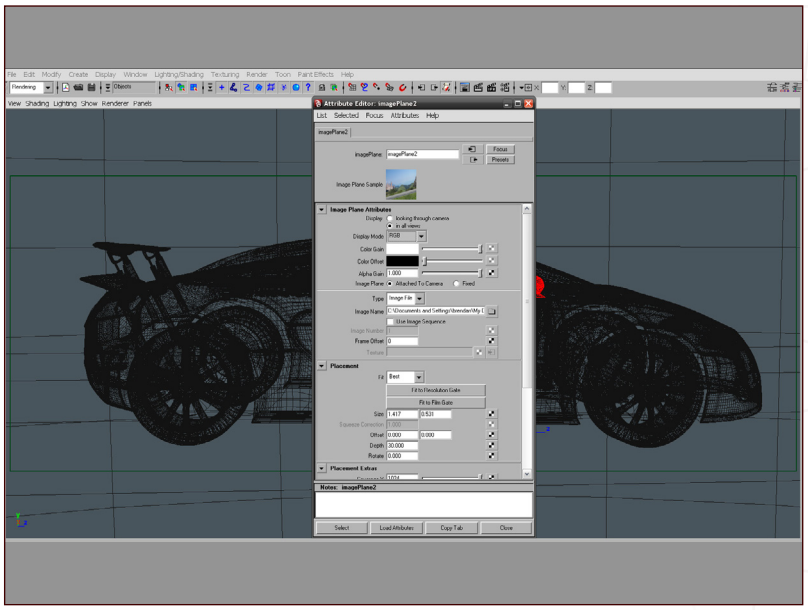


Fig 03



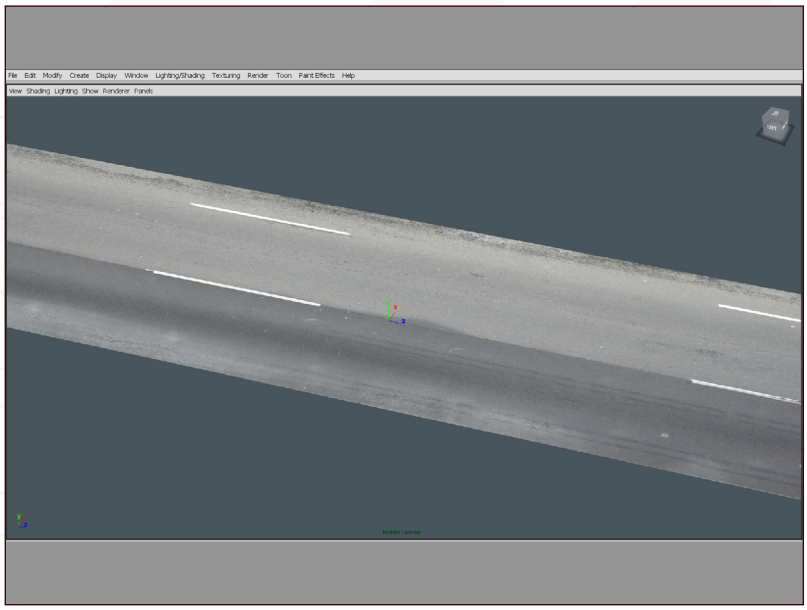


Fig 04

Gate so that the image is the right size in the viewport. Adjust the depth setting until the image plane is behind the model, and we are ready to go!

Having prepared the backplate we now need to add a ground plane for our road, which we can partially or totally comp into the final image, and which will give us our direct light shadows and GI diffuse shadows. In this case the road is very simple and straight, so we can replace it completely with our geometry. A simple asphalt texture was applied to the geometry and it was positioned in the scene (**Fig.04**).



Fig 05

The camera is then repositioned so that the ground plane lines up with the road in our backplate, and also to give us the desired view of the car (**Fig.05**). The front wheels are turned slightly inwards to make it look more interesting and less static. Generally, in car photography, you see wheels turned in, or rather the rim facing the camera rather than the tread, as this is considered more appealing.

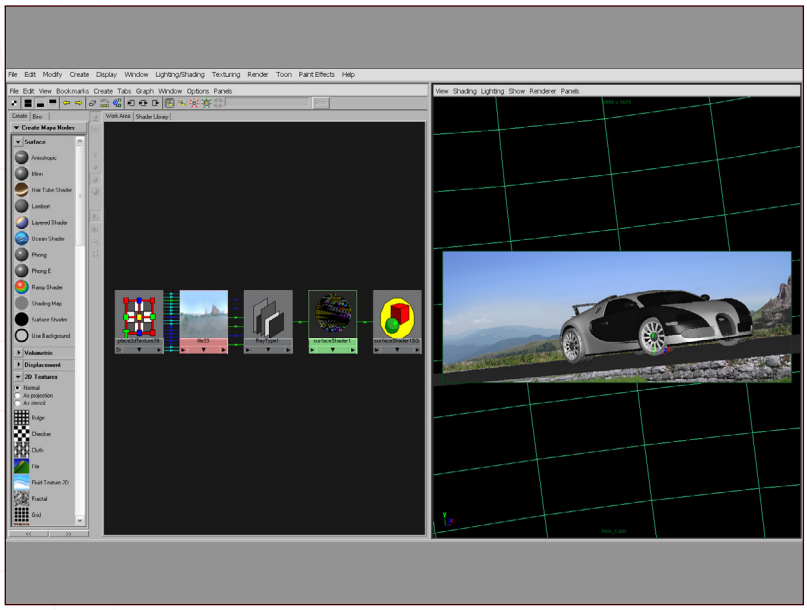


Fig 06

So with the scene now set up, it's time to set up the lighting. In the previous tutorial we already set up an environment dome using the ray type material, so we will continue to use that at this stage. Since we now have the backplate we can select an appropriate HDRI to go with it. In this image, I primarily want a good, clear blue sky, so I will select an HDRI which best suits my needs. The ideal situation is when the backplate and HDRI are shot together, so it is possible to match the lighting and reflection perfectly. It is often the case that, despite the HDRI and backplate matching, you may still have to cheat the reflection in order to get what you want. In this case, even though the HDRI is from a different location, it has the right kind of sky and so is suitable (**Fig.06**). The HDRI is connected to the eye, reflection and refraction slots of the raytype node. It is important to attach it to the eye slot, because if not it will not be visible to reflections behind refractions, which is very important for the front lights. I have not added an HDRI to the Final Gather slot for this

render and have chosen a mid-grey instead, so the FG solution will be clean. When there are a lot of diffuse elements in a scene, having an HDR connected to the FG slot is beneficial.

The key light in this scene will be the sun (the environment being the fill light). To simulate this I have added a Maya spot light to the scene and positioned it as shown in **Fig.07**. The colour is set to be slightly orange with a value of 0.75 without decay (**Fig.08**). You can add proper inverse square decay to the light for a more physically correct light source, but the decay from the sun in a scene like this is not worth considering. A mental ray area light is turned on to soften our shadows slightly. The sampling is set to 8, 8 and the size is kept fairly small so as not to soften our shadows too much.

A quick low resolution test render at this stage lets me know I am on the right track and can proceed (**Fig.09**). I normally do quick low-res renders when working out the overall scheme so I can get a feel for the lighting in a scene, but quickly progress to higher and eventually full resolution tests for checking the final quality. Certain materials and effects work great at low-res, but once you start rendering out the full thing they can look terrible. This is especially true of bump mapping and glossy reflections. It is therefore beneficial to do test render regions at full resolution before committing to a full frame high resolution render. This rendering will be 5,000 pixels wide, which is about A3 at 300 DPI, and so is in the mid range as far as advertising renderings go. Depending on the image you may need to output images of up to 20,000 pixels. An image that will look fine at 1k or 2k may look completely different at 20k, so it pays to know what you are getting early on.

For the final rendering we generally increase all sampling values for glossy reflections to improve their quality at higher resolutions, but it is important to balance it with the render time. There is always a trade off between quality and render time. The MIA shader allows the use of interpolation to speed up and smooth out glossy

Fig 07

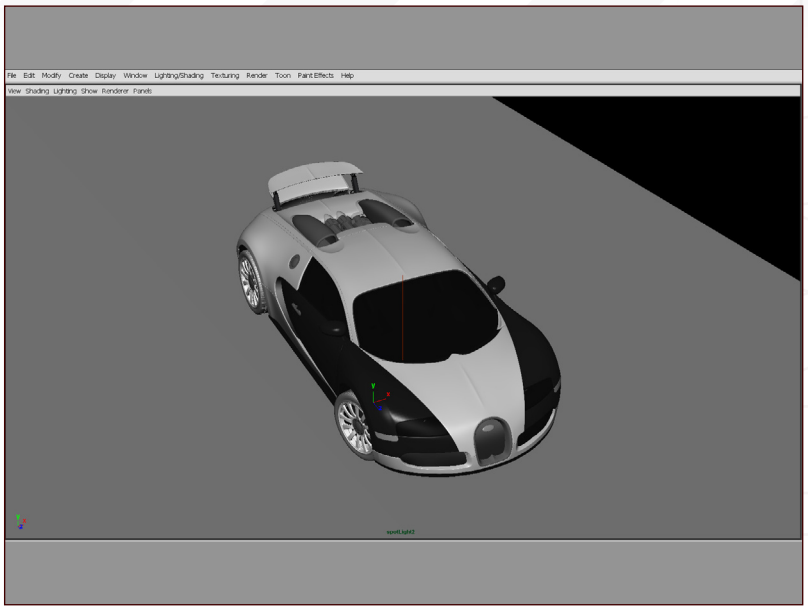


Fig 08

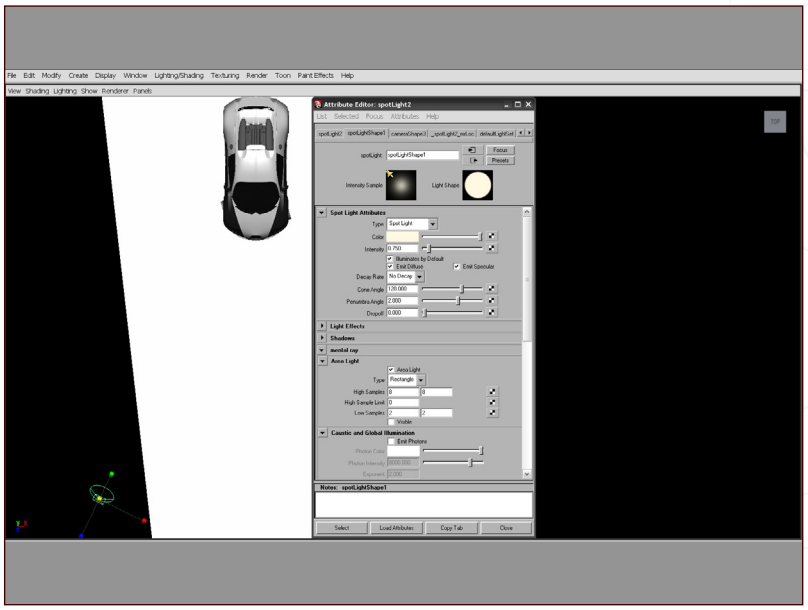
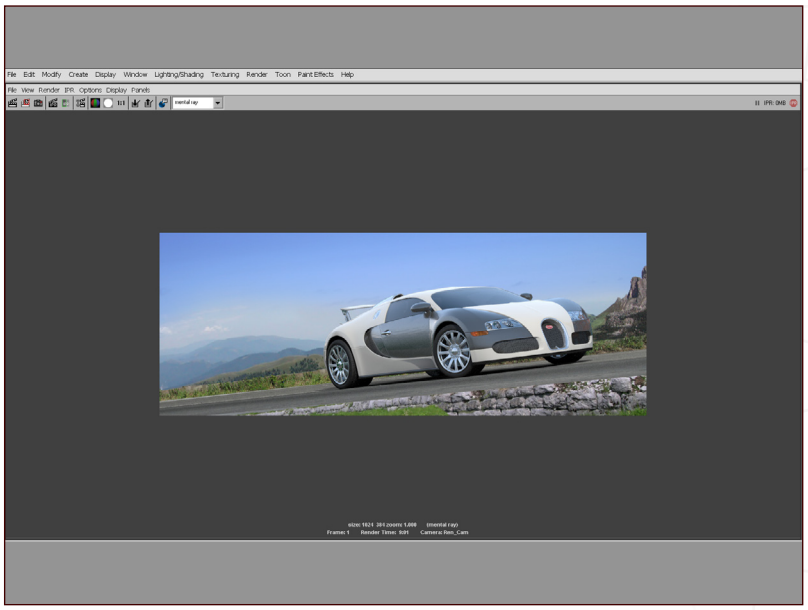


Fig 09



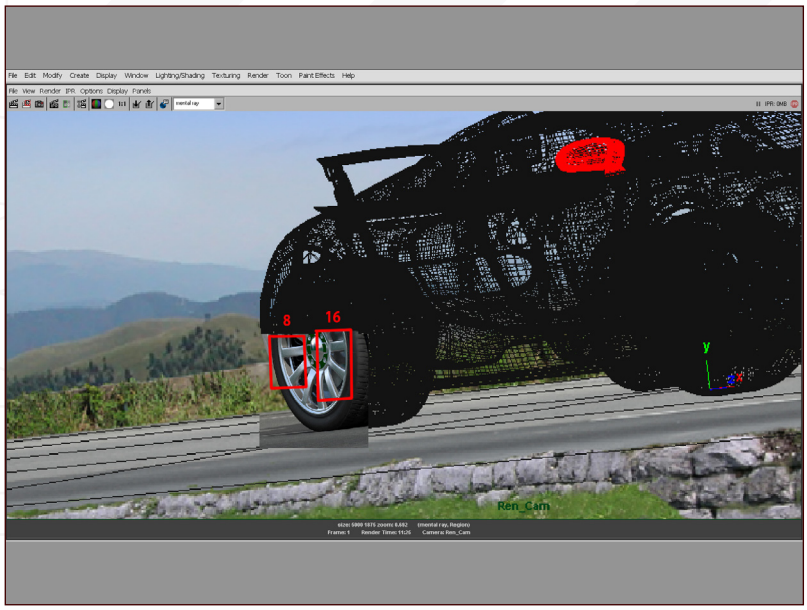



Fig 10

reflection, but this can have varied results. For example, it doesn't work very well on more complex surfaces, but it is certainly an option for simpler situations. In this case, the sampling on the wheel looks very grainy at 8 samples as it has a very glossy reflection. Increasing it to 16 improves it at a slight hit to the render time, but because the wheels make up only a small part of the image I am OK with it (**Fig.10**).

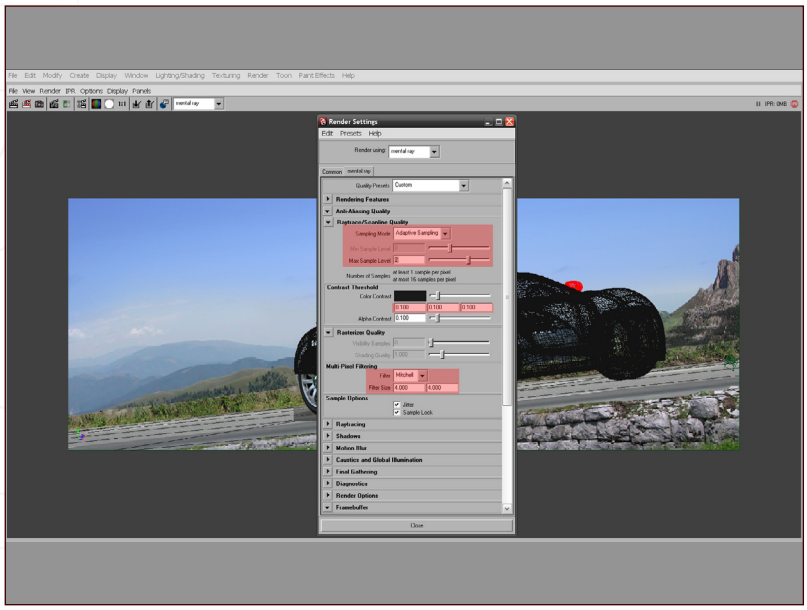


Fig 11

So let's look at the render settings for the final output. The first thing to consider is anti-aliasing. Subdivisions are set to 0,2 as a base; this is a good place to start for final rendering and it is rare that higher sampling will be needed. If there are problem areas then it is best to adjust the contrast settings first, before increasing the sampling rate **(Fig.11**). For very large renderings it is probably not even necessary to change the default contract settings, unless it has trouble resolving finer details. For this image the default values of 0.1 are fine.

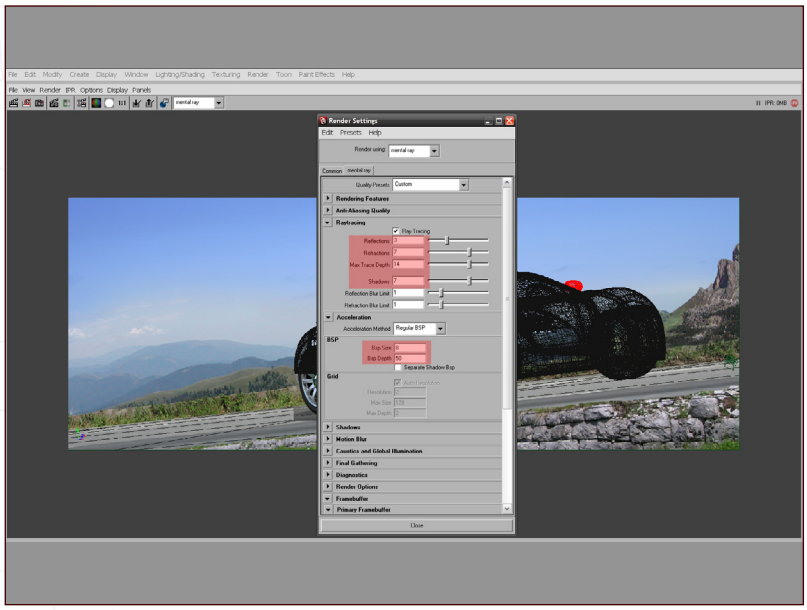


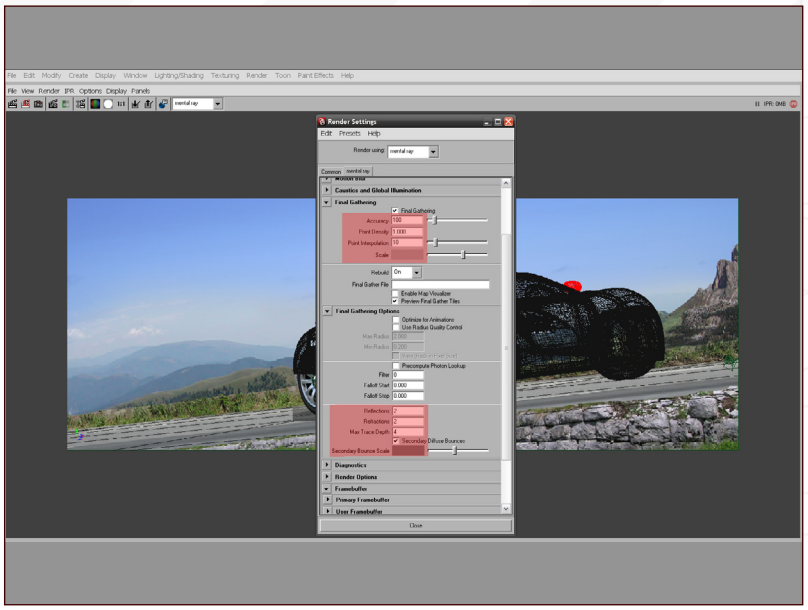
Fig 12

Raytrace options are also going to be quite important as there are lots of inter-reflections and refractions happening in the headlights. With very reflective/refractive materials this can sometimes have a big impact on render time, so the numbers have to be chosen carefully. You can override the simpler materials to have lower depths, and the maximum will only be used on those shaders that really need it (**Fig.12**). In this section you can also set the acceleration method. In this case, regular BSP is fine and because I have plenty of RAM available I will use settings of 8, 50. If memory was an issue, using values of 10, 40 would be more appropriate.

I am not going to go into too much depth on memory handling in this tutorial as it is a complicated topic all on its own.

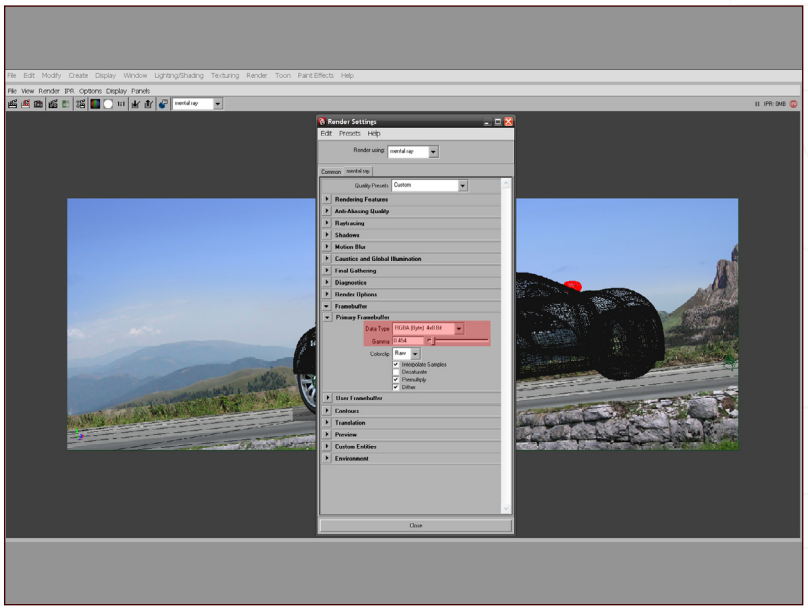
Final gather settings are left at default for quality as this seems to give a good result, and the only thing changed is the scale. The scale value controls the contribution of FG to the final render result. As we are working with a linear workflow, this can used to prevent the diffuse bounce light from washing out our image too much. Secondary bounces are turned on and the scale is also reduced (**Fig.13**).

Fig 13



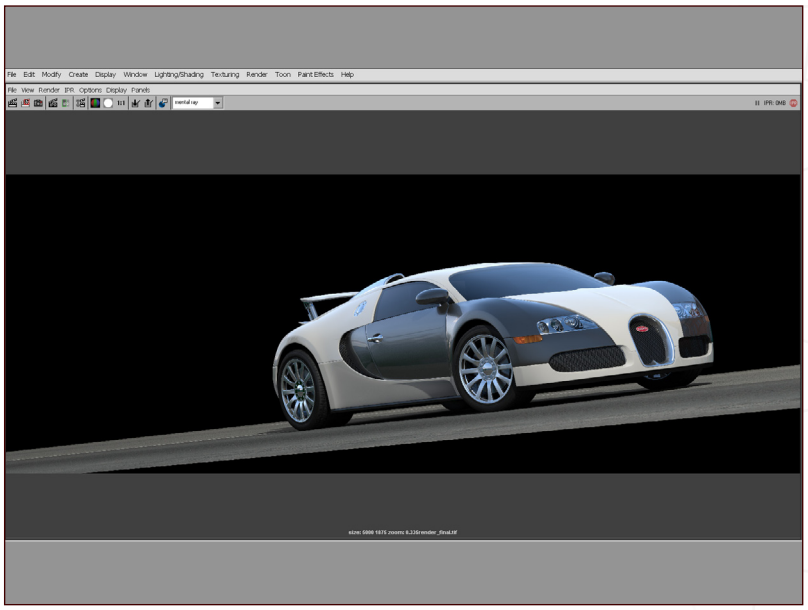
The output gamma of 0.454 (inverse of 2.2) is set in the frame buffer tab. The file bit depth is also set here and it is sometimes useful to output a 16bit or even a 32bit file for post processing. A 16bit file is less likely to suffer from banding when applying colour correction in Photoshop. For this image I will output an 8bit TGA file as my final image (**Fig.14**).

Fig 14



Before rendering the final image, turn the image plane off by setting the display option to none in the Attribute editor. There's no need to delete it as you may need it again! It's time now to press render (**Fig.15**).

Fig 15



So that is all the prep work done, but this is by no means the end of the process! The 3d rendering side of things is about 80% of the work in creating an image. The final 20% is in the post processing and retouching of the image to really make it come alive!

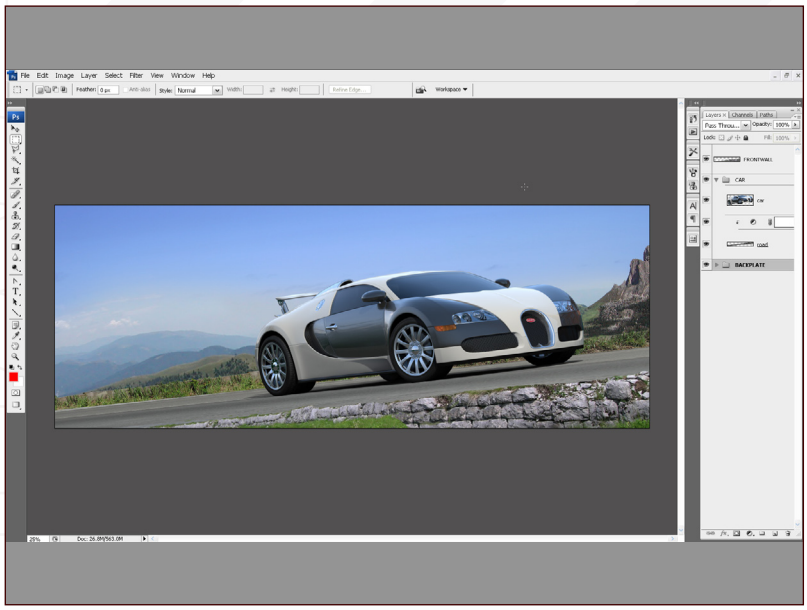


Fig 16

So with the rendering completed, I have imported it into the backplate in Photoshop (I'm using CS3) and separated the car from the road using the mask that was rendered with the image. The road material had matte opacity set to 0, so it would not be included with the mask. The road was cut out with a poly lasso and pasted on a separate layer; a Levels adjustment was added to brighten it up a bit. The adjustment layer uses the road layer as a clipping mask so it only affects that layer (to do this hold down the Alt key and left-click the line that separates the layers in the layer palette). So what we now have is a complete image – car and background (**Fig.16**).

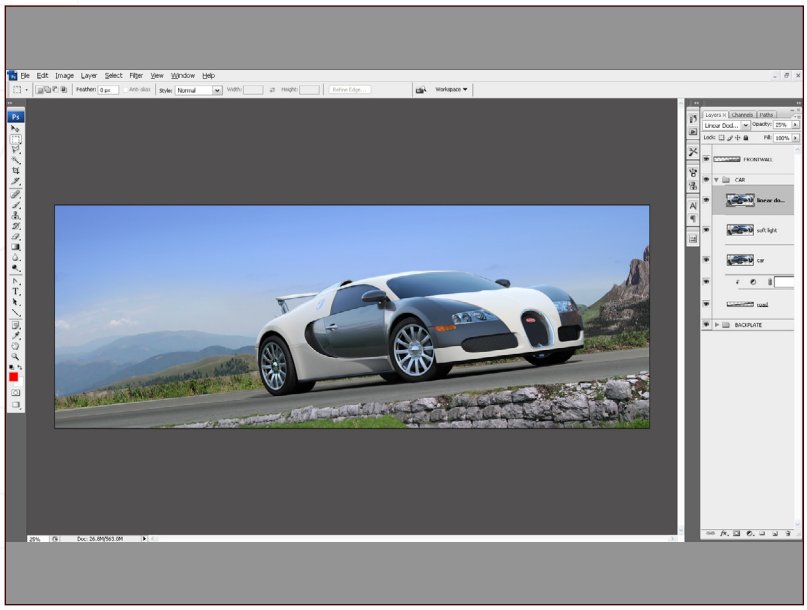


Fig 17

To go a step further and really finish this image, I am going to do series of non-destructive adjustments and add a few effects. Firstly I am going to make some minor adjustments to the car itself and then to the image as a whole. I make 2 duplicates of the car layer and set the blending mode of one to Soft Light, which gives some nice contrast to the car. I reduce the opacity to about 15% to make the effect more subtle. The other layer is set to Linear Dodge and the opacity set to 30% (**Fig.17**).

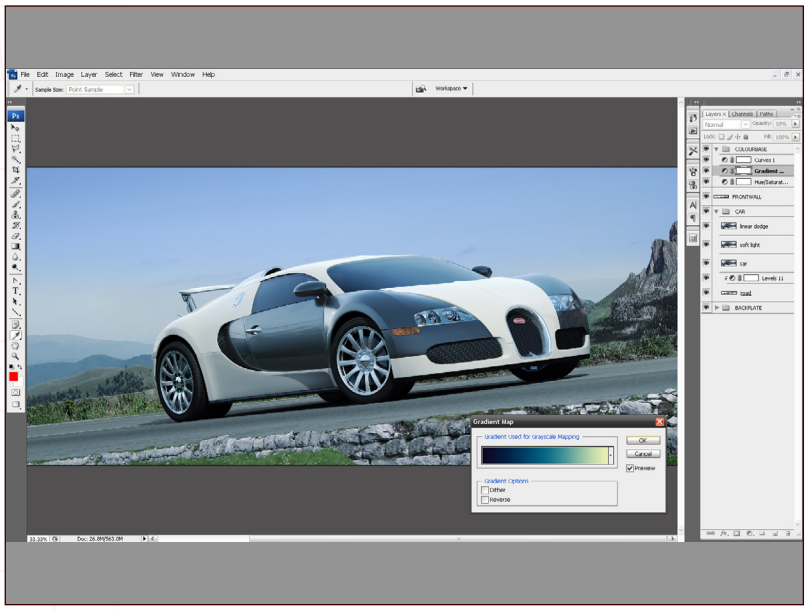


Fig 18

The layer set ColourBase has a set of 3 colour adjustment layers that change the colour hue of the image to an overall cooler tone. The fist layer is a Hue/Saturation adjustment set to colourise (202, 25, 0), with an opacity of 53%. The second is a Gradient map (**Fig.18**) with opacity of 10%. The final layer is a Curves adjustment layer to add a little contrast and to squash the blacks (**Fig.19**). The opacity of the layer set was further reduced to about 60% at this point. Working in this way allows very quick experimentation with the look and feel, and of course means you can change the level of opacity of any layer in the stack as you like. The values I am giving here are not off the top of my head but are the result of a lot of tweaking. I will build up – quickly – a set of layer adjustments and start adjusting them until I am satisfied, adding and deleting layers along the way. This kind of adjustment is very subjective.

The layer set ColourFinal (**Fig.20**) is where it starts to get interesting! This is where the final look and feel is set for the image. In this case there is a set of five colour adjustments and they are as follows (from top down):

**Photo filter 2** – set to green – opacity 39%
**Photo filter 1** – set to warming filter 85 – opacity 46%
**Levels 2** – RGB 18 1.26 235 – opacity 100%
**Gradient map** – linear grad. black to HSB 199 10 100 – opacity 70%
**Curves 1** – slight mid-tone increase – opacity 100%

The set called 'backplate adjust' contains two layers which are a merged copy of the lower layers (not including the ColourFinal set). The bottom of the two is set to Soft Light at 25% opacity, and the top is set to Screen at 25%. The Levels layer connected to the top image (clipping mask) just squashes the blacks so that only the lighter areas of the image are contributing to the image. These two layers are mainly to add a glow to the top surface of the car and the sky.

Above that set there is a Levels (8) layer which brightens the mid-tones slightly (RGB 0, 1.48, 255 at 16% opacity). Above that, the layer named "vignette" adds a slight vignette to the image, darkening the edges.

Finally there is a grain layer. This is a layer filled with 50% grey and the blending mode set to Overlay. Because of the way Overlay works, this has no visible effect on the image. Using the artistic filter, film grain noise is added to the image. The noise or grain is then transferred to the underlying layers while remaining on a separate layer.

The final touches to be added are some flares and light glows. I have taken some photos of glares and flares with low exposure so just the flare is visible. These images can be pasted on top and set to Linear Dodge or Screen, and they add a nice finishing touch to any image (**Fig.21**

Fig 19

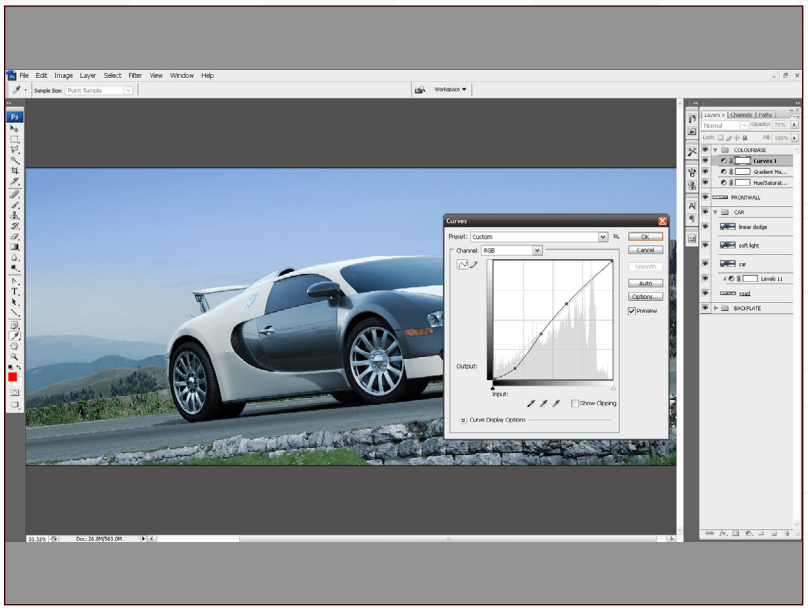


Fig 20



Fig 21





Fig 22

and **Fig.22**). The headlight glows were done in the same way. Using photographed flares looks much more realistic that any plug-in generated flare, particularly light glows.

And here is the final Image (**Fig.23**).

And that just about wraps up the rendering section of this tutorial, and with that the tutorial series as a whole! I hope you have found this helpful and informative, and I wish you the best of luck with your future projects.

# BUGATTI VEYRON
## PART 7 : LIGHTING SET UP & RENDER

Tutorial by:
BRENDAN MCCAFFREY
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brendan@bmcaff.com



Fig 23



# 3dtotal DVD training

## Comprehensive training for 3dsmax

### Introduction:

The aim of our training DVD's is to provide the artist with the most comprehensive set of lessons available. This is achieved by presenting the training material in the form of:

- step-by-step tuition.
- on-screen visual and audio instructions.
- ongoing forum support from the author.
- full-screen resolution flash movies.

All aspects of creating the finished projects are taught in a way that artist of all levels will be able to learn at their own pace. Once these techniques have been learnt , they can be equally applied to all your future modelling and texturing projects.



Welcome to

**3dtotal DVD training©**

Modeling, Mapping & Texturing a Creature Head in 3ds Max & Photoshop

**3DS MAX SERIES : v1**

- Section 1: The Basics - Using the Interface.
- Section 2: Modelling - Head, Nose, Horns & the Eyes.
- Section 3: Mapping & Unwrapping.
- Section 4: Texturing - Painting Skin, Eyes & the Horns.
- Training by in-house 3D Artist Richard Tilbury.
- Over 3hrs 30mins of comprehensive training.
- Printable step by step PDF.
- Suitable for all levels of artist.





Welcome to

**3dtotal DVD training**

Modeling, Mapping & Texturing a Creature Head in Maya & Photoshop

**MAYA SERIES : v1**

- Section 1: The Basics - Using the Interface.
- Section 2: Modelling - Head, Nose, Horns & the Eyes.
- Section 3: Mapping & Unwrapping.
- Section 4: Texturing - Painting Skin, Eyes & the Horns.
- Training by Julian Sarmineto - Sony Picture Imageworks.
- Over 3hrs 30mins of comprehensive training.
- Printable step by step PDF.
- Suitable for all levels of artist.



Welcome to

**3dtotal DVD training**

Creating a Fighter Ship in 3ds Max & Photoshop : Modeling, Mapping & Texturing

**3DS MAX SERIES : v2**

- Section 1: Modelling.
- Section 3: Mapping & Unwrapping.
- Section 4: Texturing.
- 8hrs 30mins of comprehensive training.
- Suitable for all levels of artist.



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# Bugatti Veyron
## car modelling series

SOFTIMAGE® | XSI

The series will cover an in-depth and comprehensive guide to modelling the amazing Bugatti Veyron car, from start to finish. We will focus on the key techniques and stages involved in building the chassis, as well as details such as the windows, lights, vents, petrol caps, engine parts and so on. The series will then move on to creating the wheels, including tyres and hubcaps, before going on to building and incorporating an interior, namely the dashboard and seating. This will be followed by a section on creating and applying materials for the numerous parts of the car, such as the paint work, chrome, rubber and glass, before concluding with a tutorial devoted to setting the scene for a finished render. The final part will cover the importance of a good lighting rig and light parameters, as well as the importance of a camera and the integral part that the rendering settings play in showcasing the model for a portfolio.

This series aims to offer a comprehensive guide for creating a finished car to people who are new to this type of exercise, but is not suitable for beginners who are not familiar with using 3D software. The tutorials do not detail every single step of adding individual edge loops and vertices, but they do endeavour to outline each important stage and explain the crucial techniques necessary to following the exercise.

The schedule is as follows:

Issue 029 January 2008
MODELLING THE CHASSIS - BASICS

Issue 031 March 2008
MODELLING THE CHASSIS - DETAILS

Issue 032 April 2008
WHEELS, TYRES & RIMS

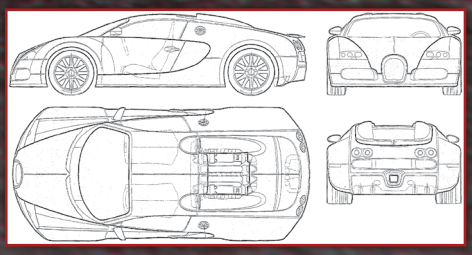
Issue 033 May 2008
INTERIOR

Issue 034 June 2008
THE MATERIALS & FINISHES

Issue 035 July 2008
LIGHTING SET UP & RENDER

ENJOY ...

Blueprints are available here:



www.the-blueprints.com

# BUGATTI VEYRON
## PART 7 : LIGHTING SET UP & RENDER

Welcome to the seventh – and final – part of this car modelling series. This month we'll take a look at the lighting setup, set the render parameters and pass parameters, and we'll also take a small peek at the post production! OK so let's continue from the end of the sixth part.

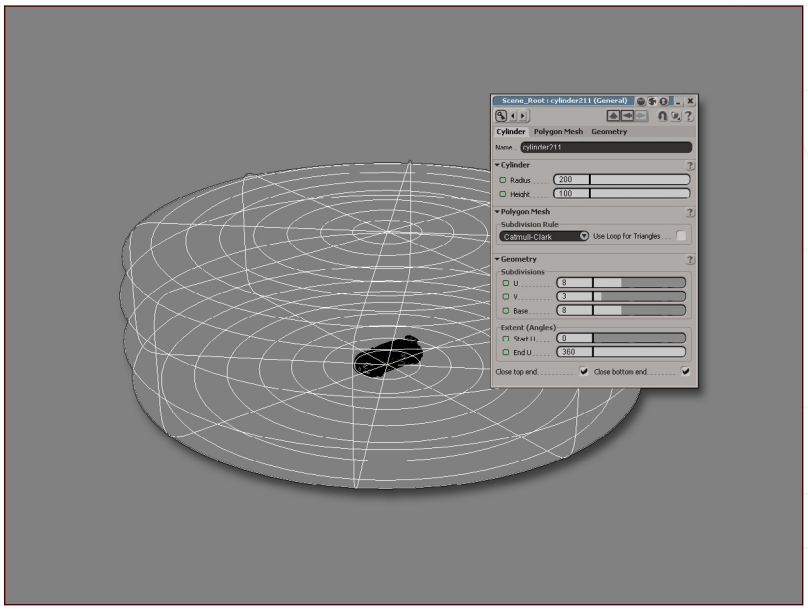
First of all we need to delete all unnecessary objects and turn the car's front wheel, as shown, to make it look a little more flattering (**Fig.01**).

Fig 01



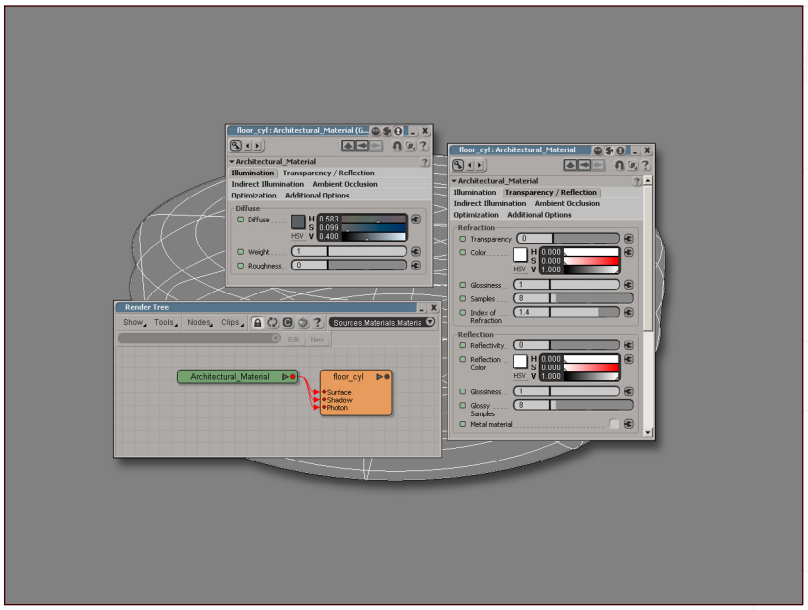
Create an infinite background out of cylinders (**Fig.02**) and make sure that the wheels of your model are touching the bottom of it!

Fig 02



Now add an Architectural material with the settings as shown in the image (**Fig.03**).

Fig 03



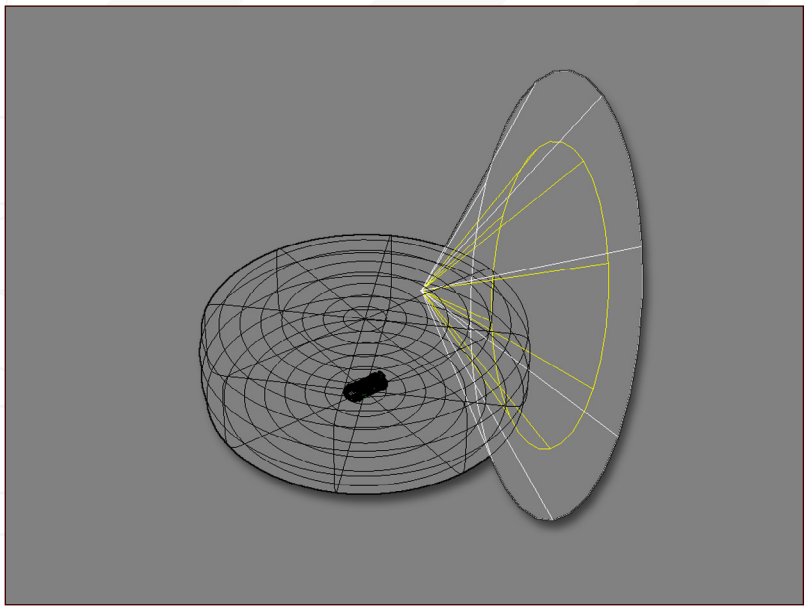


Fig 04

Let's turn on the lights! Add a Spot light to the scene (Model Module > Get > Primitive > Light) and point it towards the wall (**Fig.04**).

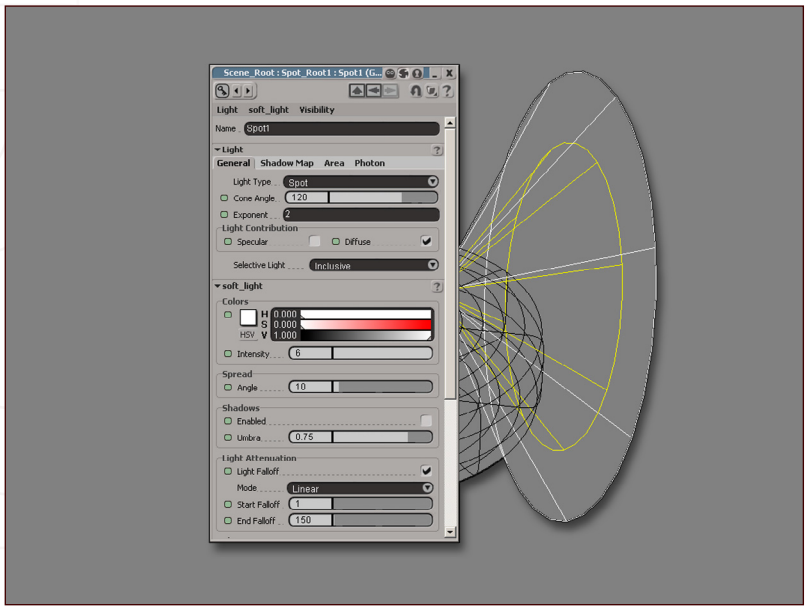



Fig 05

Apply the values, as shown in the image (**Fig.05**).

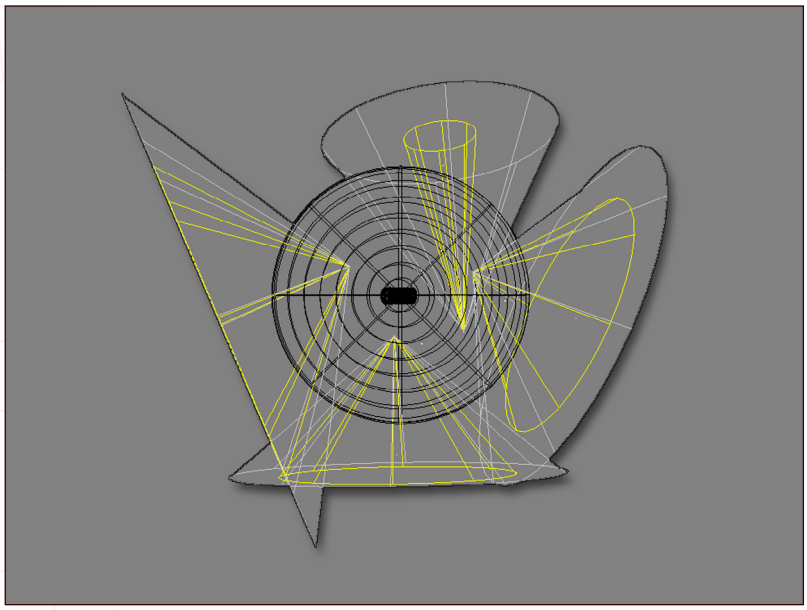
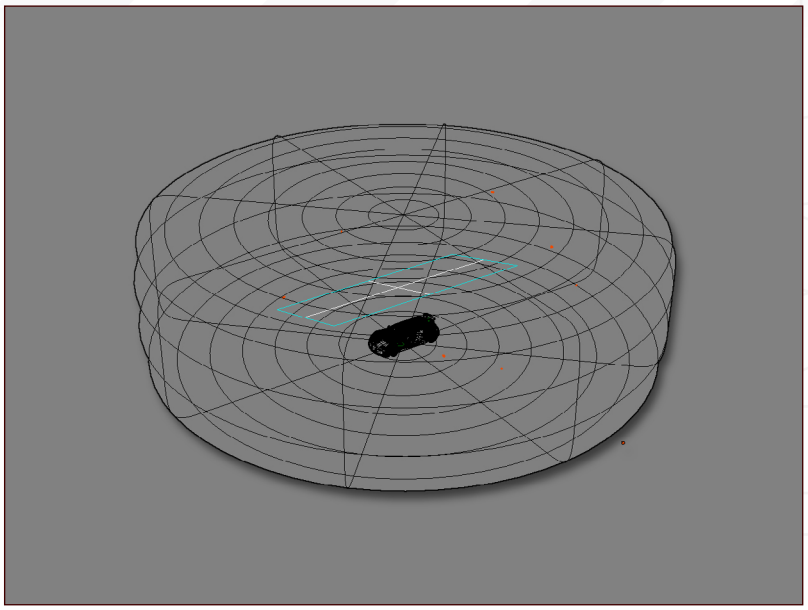


Fig 06

Now set up some other Spot lights and also point these towards the wall (**Fig.06**). We can create some smooth reflections with these!

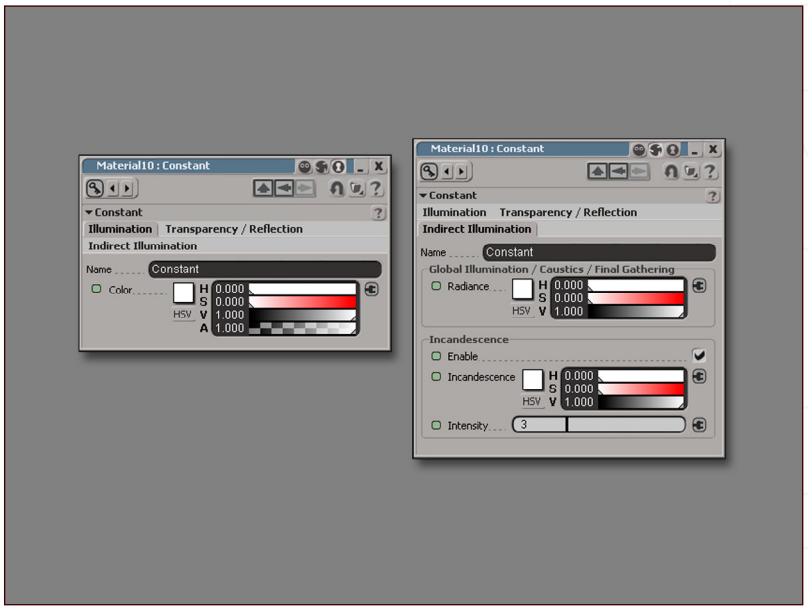
At this point we now need to add an Area light. So put in a big Plane and give XZ Texture Projection to it (**Fig.07**).

Fig 07



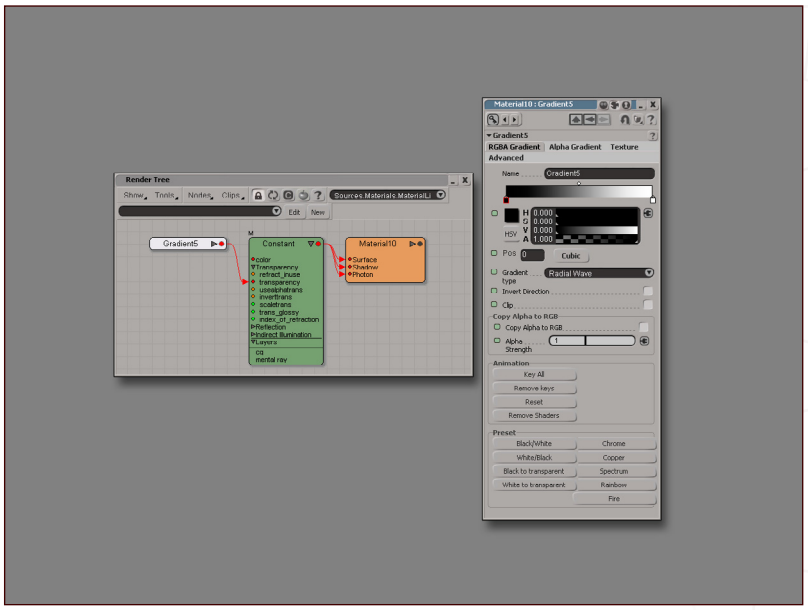
Give a Constant shader to it as well (**Fig.08**).

Fig 08




Connect a Gradient into the Transparency slot (Nodes > Texture) (**Fig.09**). You can make the border of the Area light smoother with this.

Fig 09



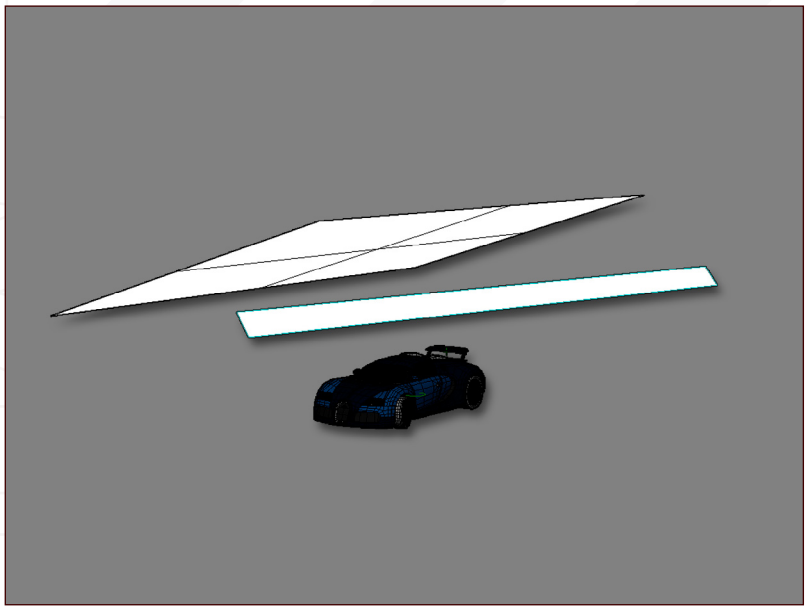


Fig 10

Now apply another, but thicker, Area light to it (**Fig.10**).

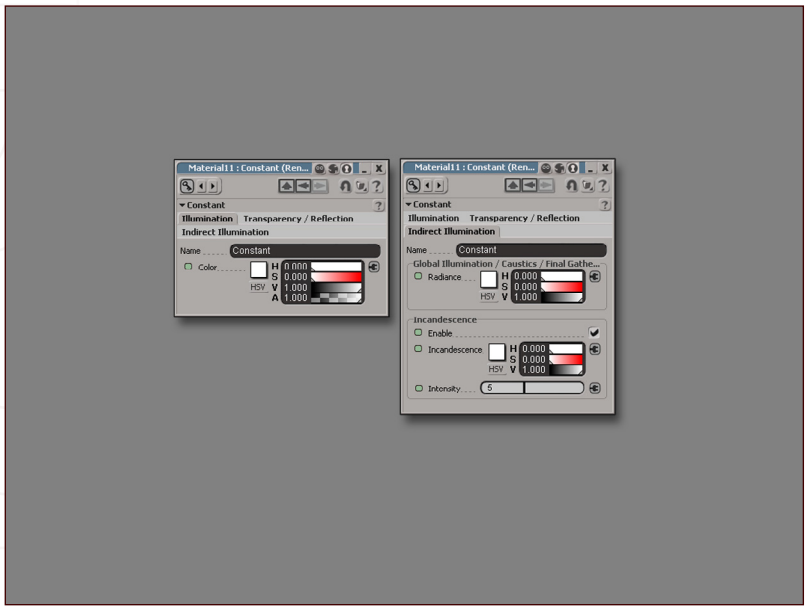



Fig 11

Give a bigger intensity to this Plane as it's going to make a bigger specular (**Fig.11**). The lighting setup is now finished at this point.

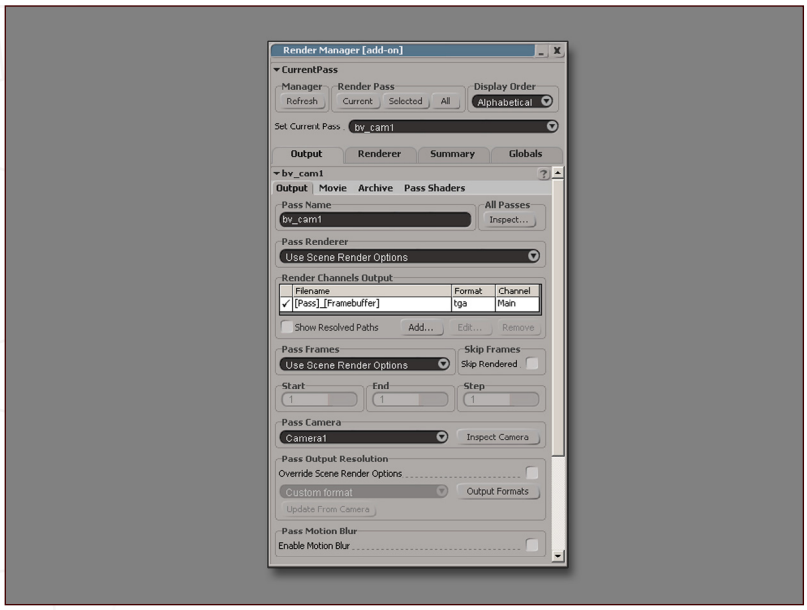
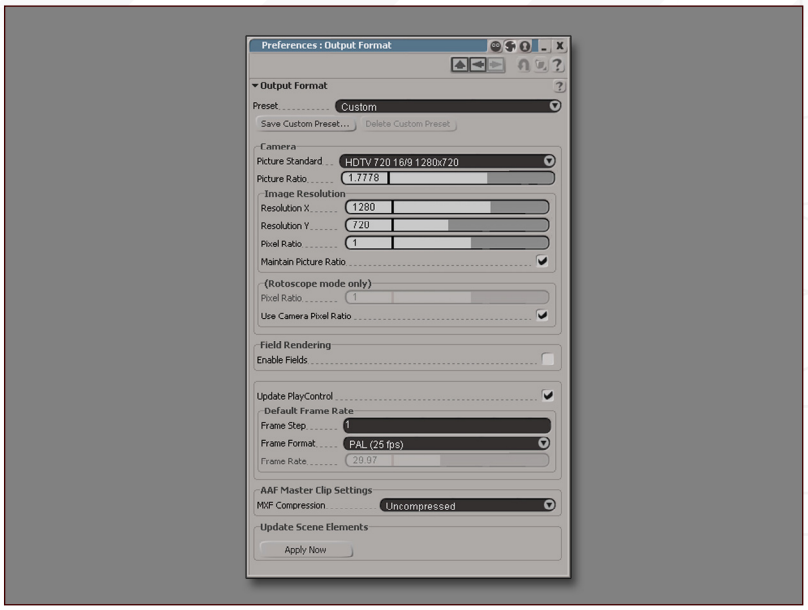



Fig 12

The next thing to take care of is the render settings. The main settings can be done quite easily in the Render Manager (Render Module > Render > Render). Here we can give the name of the pass, the folder's destination where we want to save to, the file type, the camera we want to use for the pass, and so on (**Fig.12**).

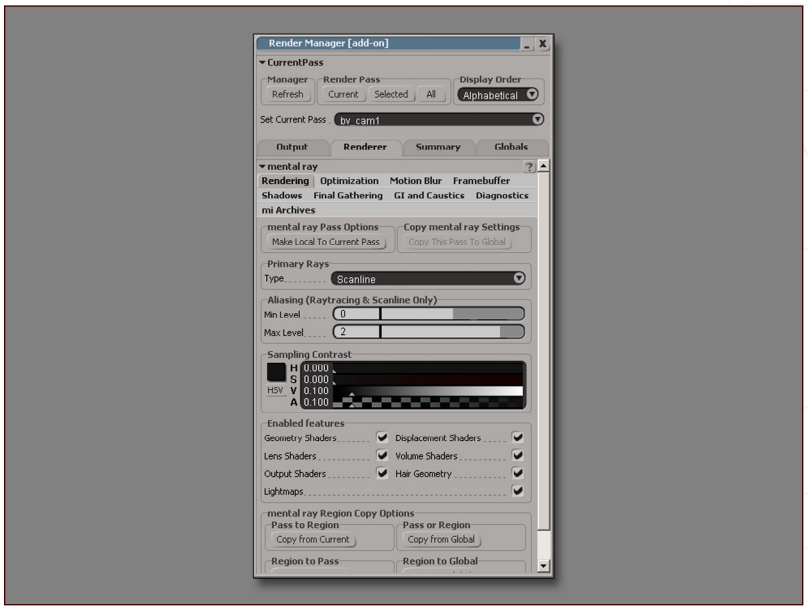
In the Render Manager, in the Pass Output Resolution, click on the Output Format option and set the desired resolution (**Fig.13**). When you're happy, click "Apply Now" and then click "OK".

Fig 13



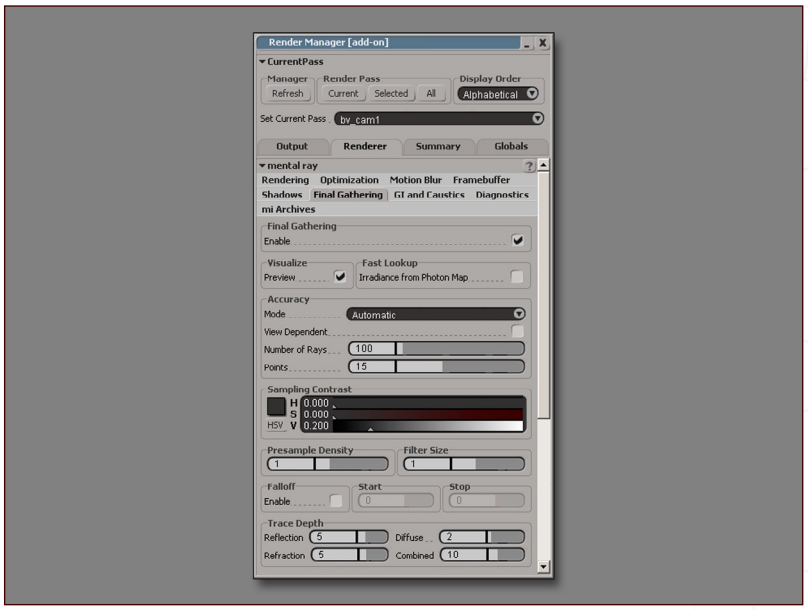

Under the Render tab you can set your renderer's parameters. Let's start with the Aliasing, as this will have a big effect on the rendering time and on the quality (**Fig.14**).

Fig 14




Next we take care of the Final Gathering settings. The function of Final Gathering is that it follows the streams of light, and through this it can create a more realistic picture (**Fig.15**).

Fig 15



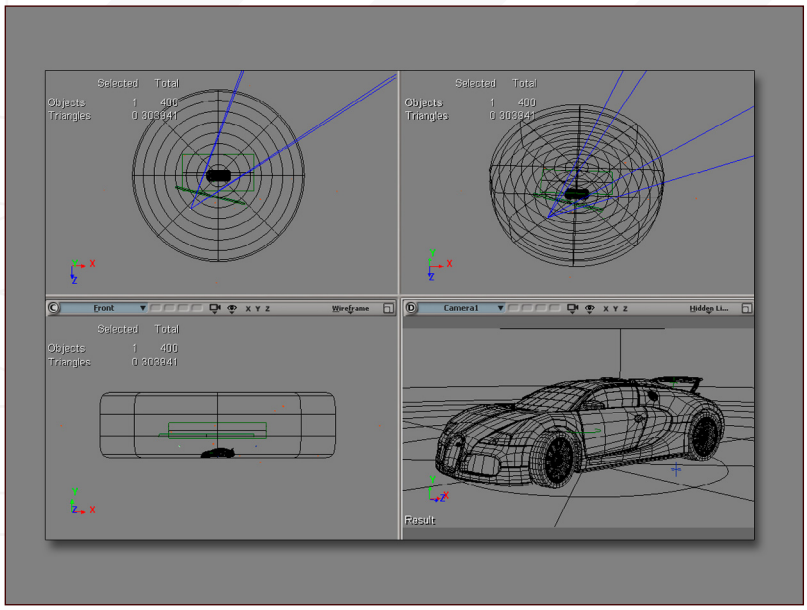



Fig 16

Now add a Perspective camera (Model Module > Get > Primitive > Camera) and set it in a way that will allow you to see the car from your desired angle (**Fig.16**).

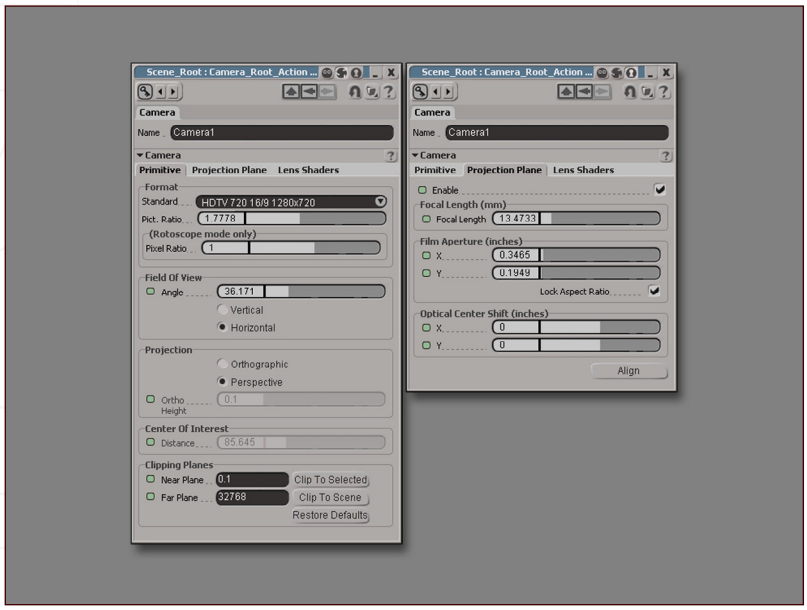



Fig 17

Apply the following settings to your perspective camera, as shown (**Fig.17**).

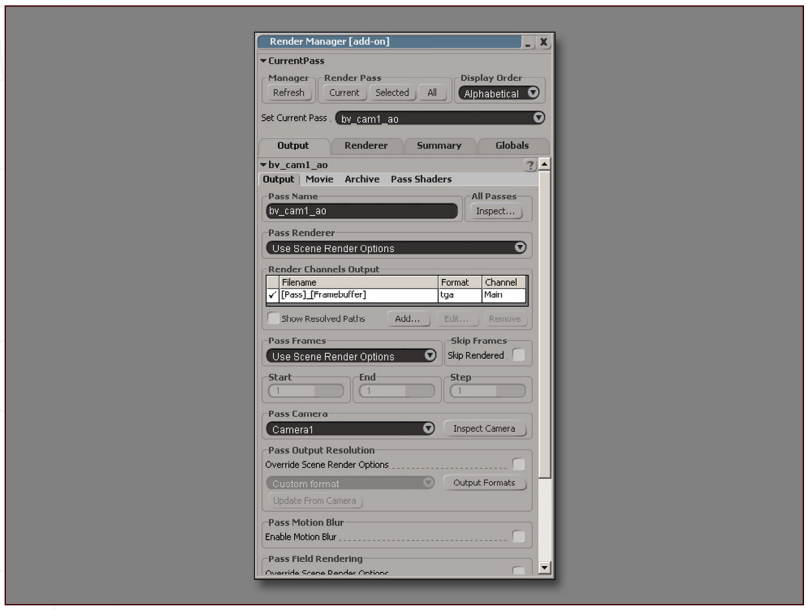
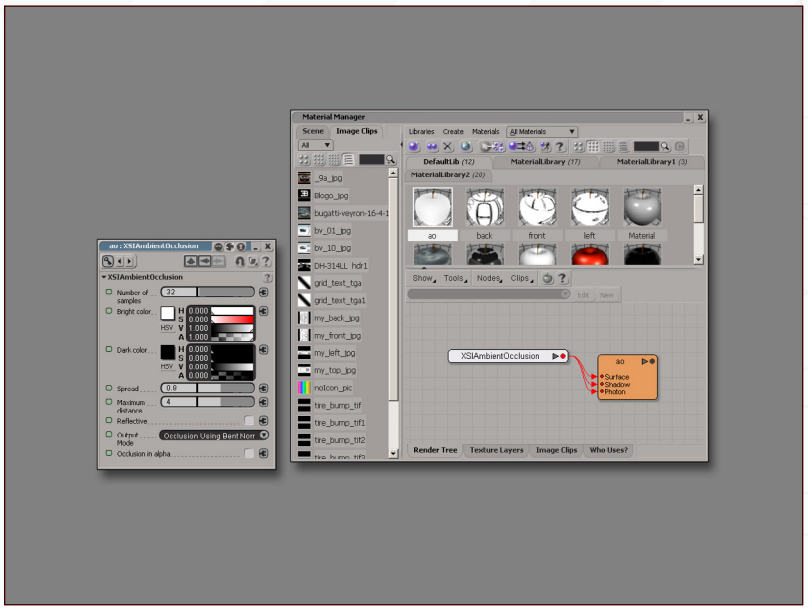



Fig 18

One of our passes is now finished at this point. We can now create an Ambient Occlusion pass for our image as well, so that the smaller details are going to be visible. To do this, copy the pass that you just created, with the Duplicate Current Pass option (Render Module > Pass > Edit). In the Render Manager, select the new one out of the Set Current Pass list and rename it (**Fig.18**).

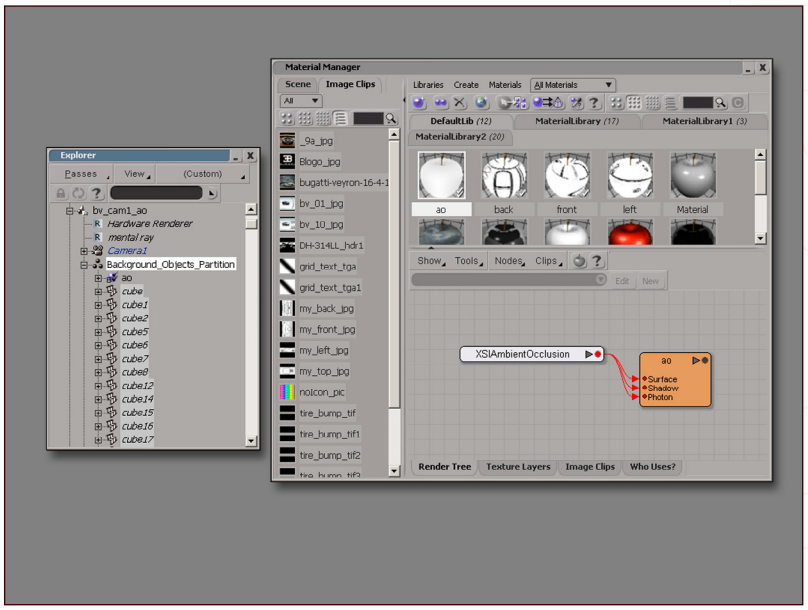
In the Material Manager, create a Phong-type material and then replace it with an XSIAmbientOcclusion, and set its parameters (**Fig.19**).

Fig 19



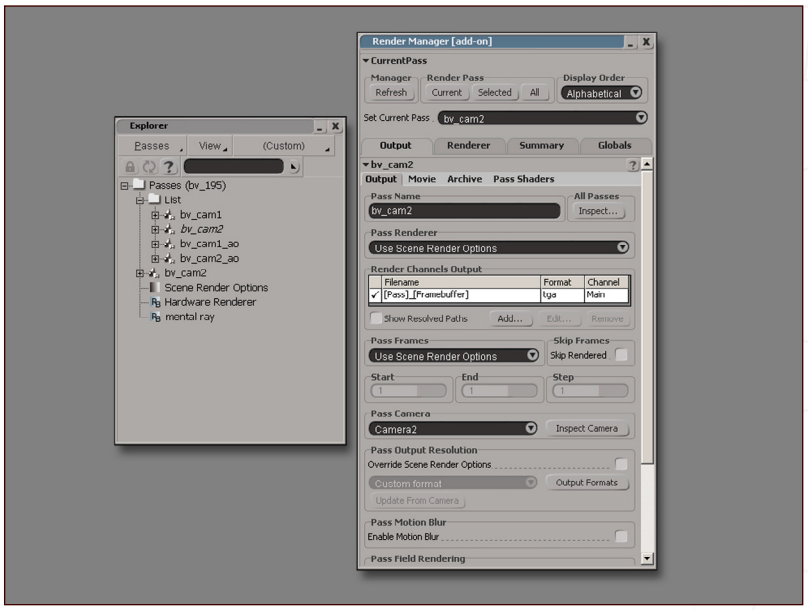

Open an Explorer (press 8 on your keyboard) and press the P button to access the Pass list. Search for the Background_Objects_Partition part of the pass that you want to use for the Ambient Occlusion, and simply drag and drop your new material onto it from the Material Manager (**Fig.20**).

Fig 20




Let's now create a new camera so that we can show the car off from other directions, too! Duplicate the second pass that we created, and in the Render Manager's Output tab, in "Pass Camera", set up the new camera (**Fig.21**).

Fig 21



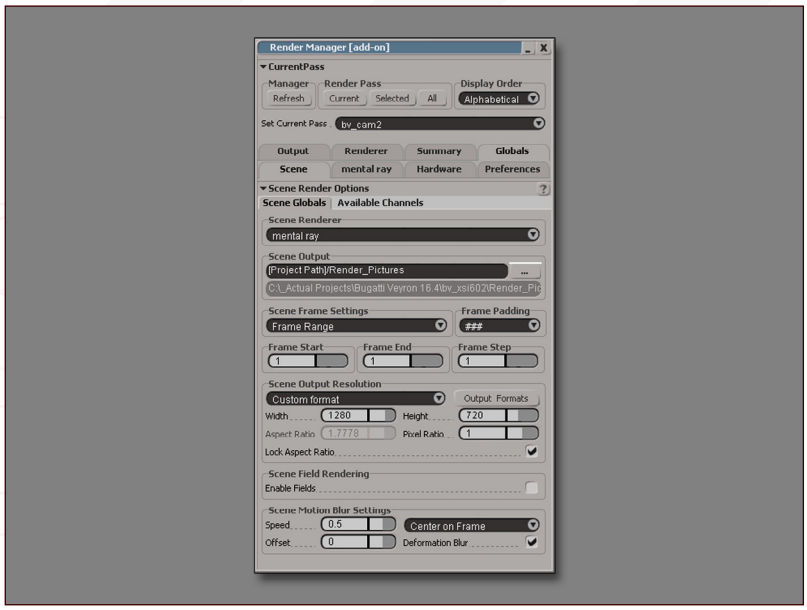



Fig 22

In the Global tab of the Render Manager, tell it that you want to render 1 Frame only (**Fig.22**).

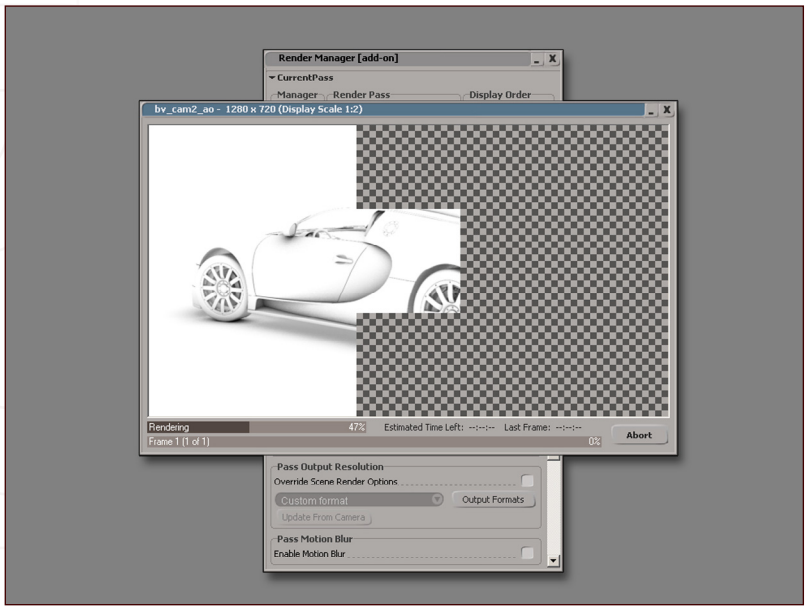



Fig 23

The only thing left to do now is the rendering! So in the Render Manager, click on the All button and sit back, because this can take a while... a *long* while (**Fig.23**)!

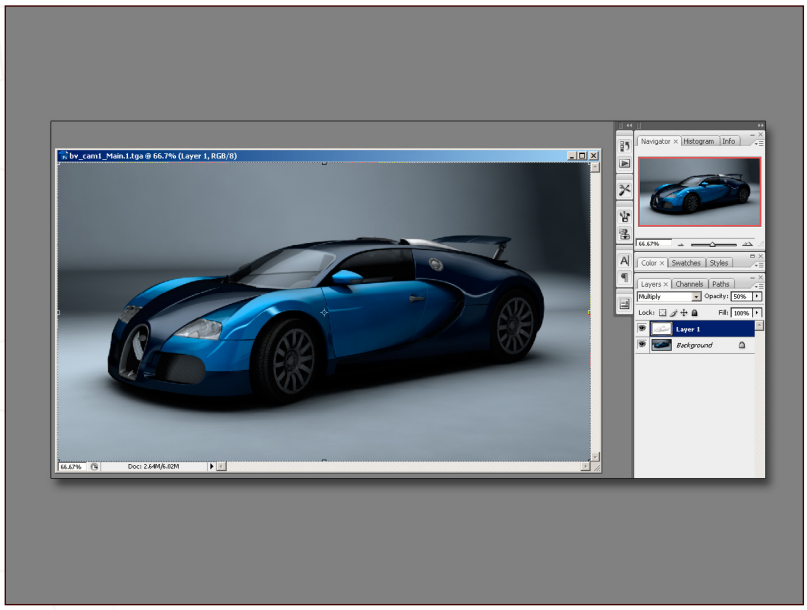



Fig 24

Take the finished pictures into a picture editor, for example Photoshop. Put the Ambient Occlusion layer on top of the main layer in Multiply mode, and set the layer to 50% transparency (**Fig.24**).

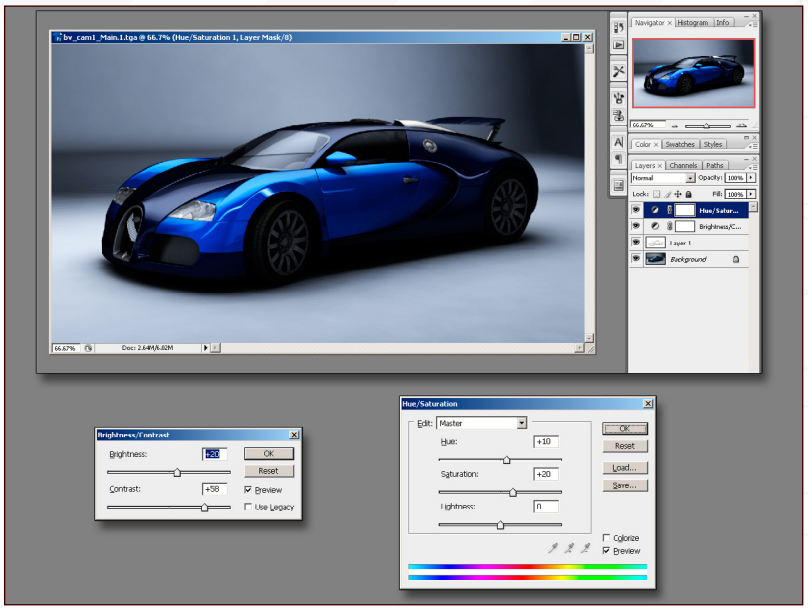
Give some Brightness/Contrast and Hue/ Saturation to your image (**Fig.25**).

There are of course no limits to how many passes you can use to separate a scene and change them for your final picture. Here is the result so far, with some extra detail (**Fig.26**).

Well, we have at last reached the end of the final episode (**Fig.27**). I hope I have been able to show you the main levels of the lighting setup, render parameters and post production work involved in car modelling. I'm sorry that I haven't had the time to make a more detailed scene, but I hope this series has been interesting and useful to you all the same. When I get some free time (with refreshed power!), I'm going to finish my Bugatti Veyron!

Thanks for having me as a part of this series and thanks so much for everyone's attention. I wish you all an enjoyable time with your own car modelling projects in the future. Thanks!

Fig 25



# BUGATTI VEYRON
## PART 7 : LIGHTING SET UP & RENDER

Tutorial by:
KRISZTIÁN SZEIBOLD
For more from this artist visit:
http://oryon.extra.hu
Or contact them:
szkoryon@gmail.com

Fig 26



Fig 27

